

To face the title.



W.H. Toms sculp.

LECTURES
ON
ARCHITECTURE.

Consisting of

RULES

Founded upon

HARMONICK and ARITHMETICAL
Proportions in Building,

DESIGN'D

As an Agreeable ENTERTAINMENT for
GENTLEMEN:

AND

More particularly useful to all who make
ARCHITECTURE, or the POLITE
ARTS, their Study.

Read to a SOCIETY establish'd for the Improvement
of ARTS and SCIENCES, and EXPLAIN'D,
by Examples on Copper Plates, with the Proportions
apply'd to Practice.

By ROBERT MORRIS.

The SECOND EDITION.

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P R E F A C E.



T is about three Years and half since I propos'd the establishing a *Society* for the Improvement of Knowledge in Arts and Sciences, which being consented to by those Friends to whom I communicated my Thoughts, we were soon settled into the Form of a *Society*: *Architecture* was the *favourite Branch* of my *Study*, and as a Basis to my Design, I read the following *Lectures*, as you will find them *dated*.

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In these Lectures are contain'd, the Use and Necessity of Societies, the Advantage of Learning, the Antiquity of *Architecture*, of the *Orders* in general, their Application to Use, a proper Choice for Situation ; Arithmetick and Harmonick Proportions applied to Practice, and exemplified in Copper Plates, with necessary Remarks and Observations, to explain the Subject treated on.

It is not difficult to discern the same Tract of Thought run thro' the whole Performance, and the favourite Principle of the Harmonick Proportions still preserv'd and adher'd to in the Performance of each Scheme laid down. It is very easy to discover the Works of a Plagiary, his Stile is unconstant and variable, his Subject inconfident

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tent in its Parts, diverging into improper Channels, and losing Sight of the Mark aim'd at in his first setting out : This is the Case. where the Person has, for want of Judgment, chose a Theme out of the Ken of his Understanding.

I have not Vanity enough to say the following Lectures consist of nothing but what is entirely new : But there are such Parts in it, and, indeed, the Chiefest, that flow'd wholly from my own private Sentiments.

Since my delivering these Lectures to the Printer, I have read the Critical Review of the Publick Buildings, &c. His Observations, it must be acknowledg'd, are just in some Places, in others more ludicrous, and sometimes so remote from real Criticism, that a florid

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Expression, a rhetorical Sentence, or a partial Censure, must atone for the Deficiency of his Judgment in the Principles of Architecture.

As I presume, the Design or Attempt of his Review of the Publick Buildings, is to point out the Beauties, or to inform the World of their Blemishes, that they might embrace the one, and endeavour to avoid the other, in the Execution of future Buildings, it would have been necessary to assign Reasons for his Distaste, and to shew where the Errors lay. But it is only his own Opinion, which he would force upon his Reader: And as I had made an Observation upon *Grosvenor-Square* before he attempted it, I propose to shew that Author all the real Defects of the triple House on the North Side, which

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which may be a Specimen for him
to follow in future Criticisms.

If the Attick Windows had been square, all rang'd upon the same Level, and remov'd so far lower from the under Part of the Great-Entablature, as to make the Margent, or Distance, equal to those of one Window from another, that a kind of Fret might have been preserv'd through the whole Range of the Design, and if the Dress of the principal Windows of the Center House, which are of Pilasters of the Composite Order, were not rusticated or block'd, and the Entablatures without Key Stones: I say, except those little Impediments to Harmony, there is no Defect in the whole Design: It has a Grandeur and Proportion in the Composure, the Parts are majestick and of an ample

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ample Relievo, and the Taste is as elegant as the most agreeable Designs of those who boast of being exact Copiers of *Palladio* or *Inigo Jones*.

As to Situation, it was, perhaps, impossible to place it in the Center of that Side, the Ground not being his Property ; and the same Architect did compose a regular Range for that whole Side, in which he has shewn a Nobleness of Invention, and the Spirit and Keeping of the Design is not unworthy of the greatest *British* Architect ; but the unpolite Taste of several Proprietors of that Ground prevented so beautiful a Performance from being the Ornament of that Side of the Square.

It must be observ'd, that a regular and harmonious Design, plac'd among other Buildings, or independent of any, will consequently be still pleasing ;

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pleasing ; it will be in itself elegant, and at a proper Distance to view it, will always affect the judicious Eye. The intended Satire, of saying the Designer had a View of taking in some young Heir, is false Criticism ; it is rather a Panegyrick upon his Judgment : it shews a Taste in the Architect capable of pleasing, for it is only Proportion and Beauty that can affect the Eye of the Judicious or the Ignorant, so as to please ; it must therefore be a Politeness of Fancy in the Architect, to compose and blend together the Beauties of Dress and Decoration, and make a Design capable to give Satisfaction to the Beholder.

What I have here said, may be a Defence of the East Side, where he cannot deny a Regularity and Elegance

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gance of Taste, but yet his Talent of Satire will be predominant. Had the Architect expanded the Pediment of that House in the Center of the Line to a Proportion of the whole Range, I should be glad to know why, and what Part of the Whole it must have necessarily assign'd to it? The Middle House breaks forwards, is of another Species than those adjoining, then consequently is independant of any Proportions belonging to them: It is a Design of itself, and not suppos'd to represent the Range as one House, only to preserve a Regularity in the Disposition of the several Buildings which compose the Line.

But he may farther observe, that the Windows of the two extream Houses and the Center, are not of the same Magnitude or Level with the

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the rest, so that the Floors cannot be suppos'd to range on a horizontal Line with each other, and consequently the Intent of the Design was to suppose each House separate and independant of another ; and as the Dres\$ and Ornaments vary, and have not an Affinity, they cannot be condemnable, the Design being only to shew how far the shifting and changing of different Modules and Proportions, when regularly dispos'd, will affect the Eye. In short, to dislike every thing we see, seems to favour of Ill-nature and Self-opinion, which are Imperfections in our Conduct ; and such little Blemishes as are unpardonable as an over Fondness of Novelty, or an Affectation to Praife.

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There is one Thing, however, which deserves our Notice and Applause, and that is, that the Author of the Critical Review has the Happiness of first attempting to refine the Taste of our Modern Architects, by shewing them Examples of publick Designs which have been esteem'd the most noble and regular Productions of the present Age, as well as preceding ones— And if these Lectures should, in any Measure, contribute to the Advancement of improving the Genius of young Students in Architecture, I may at least claim the second Place, since I have laid down Rules whereby we may distinguish what is Proportion and true Harmony, and have apply'd those Rules to Practice by tundry Examples, which may be said to be the

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the first Attempt in which the *Beau Ideal* has been publickly explain'd.

Since I have mentioned the *Beau Ideal*, which was wrote by *Hermanfon Ten Kate* in *French*, and translated by M. *Le Blon*, *Anno 1732*, I must acknowledge the first Hint I receiv'd of the Harmonick Proportions, came from that ingenuous Gentleman. In the Preface to the *Beau Ideal*, he mentions the *Grecian Analogy*, and to whom the Secret was communicated ; but it is to be wish'd, since *Ten Kate*'s Relations have not publish'd it, that M. *Le Blon* would oblige the World with so valuable a Piece, by making such useful Remarks which he can so well apply to Architecture as well as Painting ; in which the whole Mystery of Proportion would be unravelled, and a Secret preserv'd

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serv'd so many Ages, might by him be made publick, for the universal Good of Mankind, and the perfecting of Arts and Sciences, so far as to have every Branch of them perform'd by unerring Rules ; a Secret which was by the Antients found out, and but by a few Moderns known and practis'd.

If the Reader can receive Benefit or Pleasure in the Perusal of these Lectures, I have satisfy'd myself in what I at first propos'd in publishing them, which is a Desire to be instrumental to the Improvement of Arts and Sciences, and so employing my Time, that no Part of it may be said to be useleſs.

Man is naturally design'd for a Social Being, and made for noble or useful Purposes in the Creation ; and

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and if it is not in his Power to improve others in Knowledge, it is an incumbent Duty in him to endeavour to refine his own Understanding, whereby he may be said to answer the End of his Existence, in some Measure, and in which Sense I wish to be understood. Now I subscribe myself,

Your humble Servant,

R. MORRIS.



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LECTURES
ON
ARCHITECTURE.



LECTURE I.

GENTLEMEN,



T is with Pleasure I see so many of you met here with an unanimous Consent to propagate Knowledge, without Fordid Views of Gain, or any bias'd Interest; and this mutual communicating of such useful Branches of Learning to each other, will render

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this a Society which even ENVY itself can no way dissolve: And as you have done me the Honour to chuse me your *President*, I shall endeavour to discharge that Trust with the utmost Assiduity and Care; communicating to you such Parts of ARCHITECTURE which have not been fully explain'd, or transmitted to us, by those who have treated on that Subject, I shall be as concise in my Language as the Subject will permit, endeavouring to say nothing but what I think will be Necessary; still aiming at the Design for which this Society is propos'd to be instituted.

As we are now forming ourselves into a kind of little Republick, for the mutual Assistance of each other, I shall in this Lecture shew you the absolute Necessity and Advantages of *Societies* in general, as they relate to the publick or private Welfare of the Individuals; both in respect to the Preservation of Rights and Properties, and Improvement of the Intellects of the Mind.

MAN is a Being, by his very Make and Constitution, incapable of subsisting alone, more things being wanting to support

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support him, than it is possible he can provide for himself. Food and Raiment are absolutely requisite, and if he alone were to provide them for himself in time of Health or Youth, and live upon such Fruits which the Earth spontaneously produceth, or that Roots and Herbs were capable of continuing Life in that Health and Vigour of Age ; yet which way must he be provided for when he comes to the Verge of Old Age ? Or suppose Sickness should seize him, and he could not be able to stir from his Cave or Retirement, how would Nature languish, and what Anxieties would he have in that melancholy Condition ?

BUT suppose Nature prompted him to seek only the Help of the other Sex, yet by that Means the Wants would undoubtedly encrease : Nature would require something more than Raiment and Food ; the Instinct of propagating the Species would commence, and then more Relief, and the greater necessity of *Society* will be requir'd.

IF it were possible to overcome these Inconveniencies, and that the little Fa-

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mily was grown up to Maturity, capable of providing for themselves what was necessary to sustain Life, by cultivating the Ground near them, for the produce of Corn, or Plants and Vegetables, and Food for Cattle, which are necessary for conveying the Fruits of the Earth, ploughing, &c. I say, suppose these Difficulties surmounted, yet in time they would form themselves naturally into a kind of *Society* : It would be almost impossible, but some amongst them would be more lazy or covetous than the rest ; and the more industrious part of the Family would be for fencing and securing his Property, which by his Labour he had acquir'd : Then Traffick would be necessary, in exchanging such Things which they abounded in most, for such they stood in more need of.

BESIDES, this Gardening, this Agriculture, &c. must suppose Trades to supply Tools necessary for the Performance of the several Parts ; these could not be done without Arts and Sciences, or at least as much as is requisite to instruct them in the Nature and Qualities of Metals, Wood, Stones, &c. to make and provide

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provide for the Purposes requir'd ; and in this Men would find so much of their Time spent, that little would remain to the manuring of those Plots which produc'd their Food ; and even the Care of that would take off much of the Improvement which it is possible he might make in the Progress of the *Art* which he mostly inclin'd to follow.

IT may be farther observ'd, that as the Increase of the Families would occasion the little Plots they posses'd to be enlarr'd or multiply'd, by degrees they would find themselves under many Difficulties ; and there would soon be a clashing of Interests, in which Disputes and Quarrels would naturally follow : Many things would likewise occasion Envy, according to the different Interests of the Individuals ; and likewise some Men are naturally troublesome, more rapacious, and ungovernable than others ; some thievish, vicious, &c. who would continually be encroaching upon the Properties of his Neighbour ; and the Ambition and Covetousness of others might prompt them, if they had any Advantage, to make themselves greater or stronger, by taking away the Properties

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of others, and by repeated Instances of their Tyranny, Men would find themselves, under a Necessity of associating themselves, for the better guarding and securing their several Plots, &c. which by their Industry, or Patrimony, they might have acquir'd,

IN Time, Necessity would induce Families to friendly Engagements, for Comfort and Defence ; and as the Reason of it increas'd by Ties of Friendship, or Blood, or those stronger Motives of Self-preservation, People would mix and unite ; the Weak and Innocent would be glad to place themselves under the Protection of the more Able, and naturally giving Way for them to have the Pre-eminence, the several Sorts would settle in time in their proper Places, according to their several Capacities, with respect to the Common Concern ; from all which some Form of Society must spring ; Mankind could not otherwise subsist.

A SOCIETY thus form'd, for the common Good and Welfare of the People associated, must naturally frame some Rules, or Laws, by which they agree to be

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be govern'd ; for in such an irregular Multitude, where the Caprice, or Judgment, or Humour of every private Person is to be observed, there would be a Jargon of Inconsistencies, and each opinion would interfere with one another, and from such an undigested Chaos of dissenting Parts, must spring Confusion, and would soon damnify and destroy each other, springing from the several Turns of their Minds, from their Education, way of Living, and other Circumstances. We must suppose those Laws to be under a Subordination of Powers, to execute them for the Interest of the Individuals: Some Government must arise in the forming those Laws, and in all (THOSE) whose Fortune or Knowledge was predominant, would naturally subside.

MEN being thus led from their Caves and Retirements by Necessity to associate together, for the better accommodating themselves with the Conveniences of Life, when the Wants of increasing Families set them to the Exercise of their reasonable Faculties ; for the Attainment of Knowledge and Support, their Ideas must be consequently various,

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and lead them to various ways of Thinking, according to the several Passions, Inclinations, or Opportunities which Nature or Fortune afforded them ; some applied to Tillage, some to Handicraft Employments, others to Mathematical, such as Buildings, &c. as the several Wants and Necessities of the Community requir'd.

As none can deny the Necessity and Advantage of Society, so it must be equally allow'd, such Societies could not well subsist, WITHOUT those *useful* and *convenient Buildings* which keep in just Oeconomy and Order, every Man's peculiar Property. Besides, Cold and Heat in their Extreams, could not well be endur'd under the bare Canopy of Heaven ; nor could such Societies be capable to secure themselves from the Insults of Enemies, the Injuries of the extream Seasons, the Pillage of Thieves and Robbers, which would frequently attack them, if they were not secur'd by a Defence, wherein they must manifestly break through all Restrictions of Laws, in attempting to deprive them of their Rights or Repose.

GENTLEMEN,

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GENTLEMEN, SOCIETIES thus model'd and regulated, under the Protection of useful Laws, even those Laws themselves, or Form of Government, absolutely require useful and convenient Buildings to be erected; for as those Laws are made by the Direction and Management of Persons superior in *Learning*, *Wisdom*, or *Quality*, to the Bulk of the Society, they must have more ample Possessions to distinguish them from the inferior Part of the Species, to create an awful Respect in them; and in such Buildings, convenient Apartments will be wanting, to consult the Benefit and Advantages of the Society, for the Reception of Attendants, &c. And as in all such Cases, great will be the Wants, so much Judgment will be requir'd to form a just Disposition of Materials, to make an useful and commodious Building.

IF the End of Societies thus consists, or rather could not be kept together, in just Oeconomy and Order, unless secur'd and provided for in Building; if we could not be certain of our Rights, but continually attack'd by the Insults of

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Enemies, the Injuries of Weather, the Storms and Tempests of extream Seasons, the Rapine and Pillage of Thieves, &c. so it is absolutely convenient that such Societies should, as near as possible, assemble together for the Advantage of Commerce and Conversation. — Man would be but a dull and melancholy Being, if alone ; his Wants would daily increase, which are now reliev'd, according to the several ways in which his Necessities consist, and correspondent to his several Desires ; he is now furnish'd in *Cities* and *Towns*, which could not be accommodated, were Mankind to separate from Society, and whose Habitations were situated as every one's Fancy led.

I COULD have made use of many reasonable Arguments to prove the Necessity of Buildings in general, and the Knowledge which every *Individual* of a Society ought to have of this Science ; for his own *private Use* and *Interests*, for the better securing their Properties to themselves and Posterity ; but as a Digression of this kind would lead me from the Design I propos'd by this Lecture, I shall only say, that a Knowledge of

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of Building may, in some Measure, be useful to Mankind through all the Oeconomy of Life.

THE Shell, the Cortex, of the Man, thus provided for, let me point out the Advantage of Society in the Improvement of his Intellects, the Mind; in which the Benefit is more conspicuous, more extensive, and necessary: For by an Improvement of the Intellectual Faculties, Laws were first distributed, *Arts* and *Sciences* were improv'd, and all those extended Progresses made in Astronomy, Geography, Navigation, Painting, Musick, *Architecture*, &c. are owing to the Association of Men of the same Genius and Capacity, from Men of the same Turns of Mind, of the same communicative Temper, whose End of Study was the publick and universal Good of the Society.

WE may suppose in the Infancy of all Arts, they were crude and indigested, and, perhaps, found out by Accidents. The Search after one Branch of Literature, might produce the Discovery of something of more Moment, or foreign to that which was enquir'd after: But

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then the cultivating, the improving and refining those Arts, are owing to Society. Men in a State of Nature, without Books or Instructions in any *Science*, might, perhaps, be their whole Life in endeavouring to prove, that the Square of the Hypotheneuse of a Right angled Triangle, is equal to the Square of the Sides added together: And if Men had not communicated, in Society, or by Writing such Knowledge which they had acquir'd, we should still be setting out in dark Uncertainties, and the Residue of our Time might be employ'd in solving such Things which now appear familiar and demonstrative to every common Understanding. Those things which now are easy to be understood, if we had not been taught, but by mere Nature were forc'd to seek, would appear abstruse and difficult, and the Search after it might require an uncommon Affiduity, and, perhaps, when our strictest Application had been made, much Time employ'd, and weary'd ourselves in the Pursuit of it, we might have gain'd just as much Knowledge as we had at our first setting out.

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ALL Countries and Ages of the World have experienc'd the Advantage of this one important Truth, That *Society* is the *Basis* of all Knowledge, the Spring and Source of *Arts* and *Sciences*, which have been propagated, improv'd, and handed down to us by succeeding Ages. *Greece* and *Egypt* had their publick Schools, which taught the fine Principles of Philosophy : *Pythagoras*, *Plato*, and others, laid the Foundations of them ; and *Seneca*, *Cicero*, and the *Roman* Philosophers, built their Studies upon them. Later Times have produc'd innumerable Instances of the Success and Progres of Learning in the several Seminaries of Literature. The *Royal Academy* at *Paris*, the *Royal Society* of *London*, which by the Encouragement of Princely Favour have carried it to its most extended Length.

THE Universities of *Great-Britain*, of *Holland*, *Germany*, *France*, &c. have all produc'd great and noble Genius. Sir *Isaac Newton*, Mr. *Leibnitz*, Mr. *Whiston*, Mr. *Boyle*, and infinite Numbers of this present Age, whose extensive Knowledge has inform'd Mankind in

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in many difficult and abstruse Points, who have led Men to Truth, and are Patterns to future Ages; owe the Seeds of their Learning to such Education which they receiv'd from publick Schools and Societies to which they belong'd.

THERE is undoubtedly a sympathizing and attractive Principle in the Souls of the same Geniuses: Men whose Ideas are nearly alike, are bias'd by some hidden Secret in Nature to associate with each other. A philosophick Mind would be illy entertain'd with a Description of a Bear-baiting; and a Porter, or a Carman, would be little edify'd by a Lecture on Astronomy or Physicks; unless by Nature they had such internal Ideas capable of retaining or receiving an Impression from it: And you may see how such Men generally herd together, and are, perhaps, diverted as much with associating with each other, as the Philosopher, the Mathematician, the Architect, can be with Men whose Genius square and tally with theirs.

FROM hence it must be inferr'd, that this Society consisteth of Men of the same Turn of Thought. There must be

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an Affinity in the Ideas, because no Self-interested Views, I think, can arise from our present Association ; unless it be the one common Concern, the Improvement of each other in useful Knowledge. The Basis of it is on a firm Foundation, a friendly and amicable Communication of Thoughts without Reserve : And as I have had the Pleasure of proposing it, seconded by your ready joining with me in my Opinion of its Usefulness, I shall never be wanting to shew you how much I am obliged to esteem you for it, and for your favourable and ready Acceptance of the Offer I made in reading some Lectures on the Principles of Architecture.

I HAVE proposed to divide them into such Classes that they shall be easily collected together ; and when I have compleated the general Proportions, &c. with your Approbation, I intend to publish them, for the Service of such whose Genius leads them to the Study of Architecture, or such Branches which have an Affinity to that Science ; and I shall interweave such Remarks with it, as shall make it an entertaining Amusement to you in your more private Retirements.

I HAVE

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I HAVE but one thing more to add at present, that is, if any of this Society thinks it an Advantage, that they would impartially remark the little Failures which may possibly happen in my Discourse, and point out in what Places I am deficient, that I may rectify and endeavour to amend, or vindicate such Oversight, as they may appear by the different Lights in which they are view'd; and likewise join with me in ardently wishing an universal Success and Encouragement to the Progress of *Arts* and *Sciences*, and a kind Reception from those capable of supporting and encouraging such who are Professors of them; which will satisfy the Wishes of,

Gentlemen,

Your Humble Servant.

Read to the Society *October 22, 1730.*

LECTURE



GENTLEMEN,

AT the first Meeting of this Society, I endeavour'd to shew you the absolute Necessity and Advantage of Societies in general, as they relate to the publick or private Welfare of the Individuals, both in respect to the Preservation of Rights and Properties, a Defence from Insults of Enemies, &c. and as it related to the Improvement of the Intellects of the Mind. But as Time would not permit to shew you the Necessity and Usefulness of Learning, and the Obligations we lie under to endeavour to cultivate and improve the Natural Genius, as far as Opportunity or Abilities will permit; I shall make it now the Subject of my Discourse.

LEARNING, in all its Branches, may properly be said to distinguish us from

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one another, as well as from the rest of the Animal Creation, more distinctly than Speech. Birds acquire the Faculty of Speaking, but it is for the most Part misplac'd ; it is only the retaining of such Words and Accents, which they have by frequent Repetition learn'd, but not knowing how to apply ; like an Engine performing its Rotation, but insensible of its own Use.

As to Learning in general, I shall at present confine it to three great Branches, that is, Natural, Acquir'd, and Superficial ; and, as far as they appear useful to my present Intention, I shall define in their Turns.

NATURAL Knowledge, or what may be call'd a Natural Genius, are Seeds of Learning sown in the Mind at our first Formation in the Womb. Mr. *Locke* terms them Innate Ideas, such which Nature has implanted in us. Though some dispute, at the Conception of some new Idea, whether that Idea be not eternally in the Mind, though our Faculty of distinguishing it has been dormant. But as this Speculation is too curious, and foreign to my Design, I shall observe,

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as to the Natural Genius, that many lively Instances of it have appear'd in the History of all Ages. The Man in whom the Seeds of Knowledge are sown, in spite of all the Obstacles of Fortune, will be still the same; the Ideas which Nature originally stamps on the Mind cannot be worn out. Poverty, Obscurity, want of Education, want of Opportunities of Improvement by Instruction, Books, Societies, &c. I say, in spite of all these Impediments, the bright Ideas will shine, they will appear beautiful through all the little Clouds of Fortune, and, like the Sun on the Surface of the Water, they will reflect their benevolent Beams on the Mind of those capable of receiving them. How unhappy is the Fate of that Man, whom Nature, in spite of all Obstructions, has supplied with a fine Genius, and yet wants the nice Correction and Care of *Art* to cultivate and improve, to draw by degrees from the Errors of ill-digested Opinions imbib'd in Minority, perhaps through the Ignorance of those under whose Tuition he was plac'd, and by setting out in an improper Path, renders him for ever incapable of making any great Progress in any Art, without by some

skilful Mind he is instructed in a more perfect Way, and taught the first Principles by which the Knowledge of it is to be attain'd.

ACQUIR'D Knowledge flows from the improving and refining the Natural Genius. The Seeds of Learning, when sown first, are a minute Embryo; but by proper Methods made use of in the cultivating of them, they gradually arrive to Maturity. They must have suitable Principles instill'd, such which have an Affinity to the Nature of the Genius which is to be improv'd. Those Principles take Root, dilate and spread themselves slowly into Form, which, like a young Fruit-Tree, by pruning and regularly disposing, keeps from shooting into superfluous Branches. As Thorns do not produce Thistles, so it is impossible for the Man who has by Nature the Seeds of the Mathematicks born with him, to be otherwise; and the great Painter, the great Architect, the fine Geniuses, are so by Nature as well as Art; and I do not doubt, but there are many great Men now buried in Oblivion, who, if they had the Happiness of Education, and the Fortune of Encouragement, might become

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come equal to the Great Sir *Isaac Newton* in Philosophy, to *Raphael* in Painting, to *Palladio*, or *Inigo Jones*, in Architecture.

SUPERFICIAL Learning is the Shell, the Excrescencies of both : It is a gay, gaudy Outside, without Value ; a Multiplicity of Ideas, without Order ; a Shadow only, which the Possessor grasps at, imagining it a Substance. Mr. *Pope* has very justly describ'd the Character of such a one in his *Essay on Criticism*, where he says,

*The bookful Blockhead, ignorantly read,
With Loads of learned Lumber in his Head, &c.*

And in another Part of the same *Essay* justly concludes,

*One Science only, will one Genius fit,
So vast is Art, so narrow human Wit.*

Such a one who has only the superficial Learning, may be easily known by his dwelling upon the Surface of Controversy, or Arts, not daring to sink into the Principles or Spring of things, or not having Abilities ; they are generally such,

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whom Education has been illly applied to, not having a Genius to receive it.

I HAVE thus far ventur'd to give you my Opinion of natural, acquir'd, and superficial Learning ; I propose now to shew you the Uses of it, as far as it relates to Mankind in general, and Societies in particular.

LEARNING in general, is subservient to all, in all the Stages and Stations of Life : Our walking, sitting, lying down, rising, &c. are perform'd by Mechanick Powers ; and though every one cannot discern it, or if it is not conceiv'd by the unthinking Part of Mankind, yet every Mathematician can demonstrate it : Every Action is perform'd by the Laws of Mechanism ; the Motion and sudden Velocity of our Bodies, are the Effects of a Mathematical Power, and the Knowledge or Contemplation of it, elevates us a Degree above the rest of our Species, and distinguishes us in a more eminent Manner from Brutes.

IT is necessary for the Direction of Affairs in Societies, in making Laws, distributing Justice, &c. It is necessary in Trade,

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Trade, Traffick, and Commerce ; in discerning the Motion of the Heavenly Bodies ; in Weights, Measures, Travel ; in short, in every Thing which concerns Societies to be acquainted with.

WITH Reason, and Wisdom, Men first assosciated together, and form'd themselves into Societies ; and by it they first fram'd and modell'd the Laws by which they propos'd to be govern'd : And without Knowledge in Navigation, Traffick and Commerce with distant Countries could not be had ; nor could we judge of, or describe the Motion or Distance of the Planets, or the Time of their Revolution ; by Geometry, Weights, Measures, and the Power of Bodies, are known ; and indeed we find one Branch of Learning or another, useful in the whole Oeconomy of Human Nature.

BESIDES all this, the Pleasures which the thinking Mind takes, in a Pursuit after Knowledge, are inexpressible. The *Astronomer* can soar from one Planet to another, and from one Region to another, till the Mind is lost in infinite Space; the *Geographer* can travel from one Country to another, through vari-

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ous Climates, over Sea and Land, and encompass the whole Earth in his Imagination, and yet be only retir'd to his Closet, or contemplating in the Field; the *Painter* can see Groupes of Figures and lively Landskips, some shocking Precipice, or silent Glade, to divert his Ideas; the *Architeet* raises in his Idea, Numbers of pleasing Structures, beautiful and proportion'd, with a regular Symmetry and a just Exactness; the *Poet* represents to himself beautiful Hills and Lawns, pleasing Vales and circling Rivulets, the purling Streams gliding through some gloomy Shade, the *Harmony of Numbers* and *Nature*.

THE *Mechanick* ideally sees Multitudes of various Machines for Conveyance of Timber, Stone, Water &c. all perfect and pleasing to his Imagination: The *Mathematician* has his Globes, Prisms, Quadrants, Triangles, &c. his Lines generated by the Parabola, Hyperbola, the Catheranian, and others. All these, by a little Expansion of the Mind, are seen as natural as the *Statuary*, who ideally views in a Block of Marble a beautiful Statue, which only requires the Care and Skill of his nice Hand, to take away the

gross Particles of Matter which enclose it, whereby others may view it with equal Pleasure as himself.

LEARNING is a Topick which leads us from one Labyrinth of Pleasure to another ; it is as extensive as the Universe ; it consisteth of infinite Divisions, which disperse themselves into innumerable Branches ; and if we trace it from one Chain to another, it never loses its Lustre ; its Beauties are always apparent, and whatever shape you view it in, it still charms you : It is a Jewel of inestimable Value, and he who posseffeth it enjoys every Thing desirable. The Goods of Fortune, by Multitude of Casualties, perish, and are destroyed : Earthquakes, Inundations and Tempests, impoverish and ruin many Countries ; but no Misfortunes can shock the Mind of the Philosopher : In Prosperity or Adversity, he is the same : His Wisdom, by making Excursions into the Channels of Fortune, makes every Stage of Life equal. Knowledge is acquir'd by Study and Affiduity, and by cultivating those Natural Faculties which are planted in us.

WE should endeavour to discover which way Nature has directed the Channel of our Genius. If to the Mathematisks such Branches of Learning which lead to those Arts, should be carefully learnt, and not stop the Current of that *Rivulet* by throwing in Lumber of Law, History, &c. which are contrary to Nature's Design. Nor must he who designs to be an Architect, load his Mind with Politicks ; he will find Matter enough in the several Branches of that alone, to employ his whole Study to become Master of : No Art is so narrow and confin'd, but it will take up much Time to be acquainted with ; and it is better to know one Thing perfect, than superficially to know many. There are many Branches of Learning in every Art, and those Paths which lead to them should be carefully trod : Circumspection and Diligence are requir'd to compleat the Performance, and a close Application should be observ'd in the Pursuit of our Studies.

ARCHITECTURE is certainly not only a pleasing, but extensive Science ; for by varying and changing the Modus, there will always spring new Ideas, new Scenes, for

for the Imagination to work upon ; the Fancy of the Designer may be always entertained, and the different Branches of Architecture will furnish him with something of an *Amusement*, which gratifies the Eye as well as the Understanding.

IT will be necessary for the *Architect* to know as much of *Geometry*, as will enable him to delineate regular or irregular Plans, &c. to furnish him with Reasons for the Capacity of supporting Weights, which will often require Geometrical Constructions to explain ; to describe the external Part of a Fabrick by Perspective Elevations, or the internal by Sections, &c. all which are founded on the Principles of Geometry.

THE *Architect* should be acquainted with *Arithmetick*, to be able to make an Estimate of the Expence of the Building ; to measure and settle the several Works of the Artificers ; to make up the Quantities of Monies expended, and the balancing the Accompts between the Workmen and the Person who employs them. Likewise Arithmetick furnishes him with Proportions of Numbers, in harmonick and arithmetical Progressions, to regulate

late the external and internal Parts of the
Fabrick, which I shall delineate in the
Course of these Lectures.

HE must have such an Idea of *Musick*,
as will conduce to judge the Nature of
Sounds, their Accords and Discords, their
Affinity with Proportion, in erecting
Rooms of Entertainment, in Theatres,
Churches, &c. in which Places Sound is
more immediately concerned.

OPTICKS will be requisite to be un-
derstood, as far as they relate to Proportion
of Light in large or small Rooms,
or as the Situation is to the four Cardinal
Points, in which the adapting the in-
ternal Apartments, as the Hall, Saloon,
Parlours, Withdrawing-Room, Dining-
Room, Library, &c. are to have pro-
portional Lights, according to their Mag-
nitude and Situation ; or in Town Hou-
ses, where Room is wanting, and Light
more difficult to attain, there will more
Knowledge of Opticks be requir'd.

HISTORY will be necessary to inform
him of the State of *Architecture* in
Greece or *Rome*, in its Infancy : The
Manner of their publick and private
Buildings ;

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Buildings ; their Magnitude, Beauty, &c. which have been handed down to us by undoubted Records, and by which he may regulate and dispose the Apartments in publick Buildings for the Convenience, &c. which they require.

A LITTLE *Philosophy* will not be amiss, to inform the Architect of the Nature of Materials ; the Qualities of Wood, Stones, Earth, Minerals, &c. Even in the Choice of Situation, the Temperature of the Air, the Nature of Waters, Plants, Vegetables, &c. which Nature produceth in different Situations.

THESE are the Ingredients of Learning, which are to be blended together for the Use of an Architect. It is not requir'd that he be a compleat Master of each, but only to know as much of them as he can explain for the foregoing Purposes. There are few who have a Genius to take in more than these Branches for any Science, therefore a skilful Designer must consequently have taken much Pains to become Master of *Architecture*, including those Divisions of Learning which are to be by him thus understood.

As

As to a Knowledge of the Five Orders of *Architecture*, indeed they are commendable, but it is only the Entrance, the first Branches of the Art; the great and valuable Parts of it consist in Designing well, to appropriate the several Parts to Use, and make them have an Affinity with the whole: But this only is the Gift of Nature, no Art can teach a Man the way to attain it, unless Nature has laid the Foundation; and those which I have mentioned, may be said to be only Assistants in cultivating and improving the natural Genius.

BEFORE I proceed to the Application of Buildings, to different Situations, or the Uses of the *Orders*, themselves, I shall trace *Architecture* to its Fountain, and consider it in its infant State, and by what Steps it has been handed to different Countries, and its Arrival to Perfection: But as that will take up too much of your present Time, I shall make it the Subject of another Lecture.

I SHALL only add, that I could wish to see Emulation rise among us, striving who should excel in doing good Offices to

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to each other : to be instructed by, and assistant to each other, in every *Science*, as far as your Abilities will extend : to see the *Mathematicks* and *Architecture*, and the several dependent Branches of *Literature*, become the Pleasure of your Discourse, the Delight of your Studies. This, in the End, would be useful and entertaining to yourselves, and an Example worthy of Imitation to others : and in this we should raise a Monument which neither Time nor Envy could deface ; and, perhaps, in future Years, it may be said, you laid the Foundation to a *Society* chiefly instituted for propagating Knowledge without self-interested Views. The Memory of such an Undertaking, to be transmitted to distant Time, will redound much to your Praise, and is the sincere Wishes of

Your Humble Servant.

Read to the Society, *October 29, 1730.*

LECTURE



IN my last *Lecture*, I propos'd to give you a Description of the Rise, Progress, and Extent of *Architecture*, which I intend the Subject of this Discourse, having for that Purpose perus'd those Authors who have transmitted to Posterity the Labours of the Antients. Building, in its Mino-
rity, was, doubtless, not only plain, but irregular, Men studying the Uses of the several Parts of the Fabrick, more than Beauty, till Societies began to increase in Wealth and Number, by Traffick and Commerce, then they rose in their Idea to the Knowledge of some sort of Regularity and Proportion in the disposing the several Parts of their Building; but even this Proportion may be supposed to be known long before the *Orders* were instituted.

WHEN

WHEN Arts and Learning became famous in *Egypt*, we may suppose with them *Architecture* flourish'd ; for we find Works very Elaborate mention'd even among the great Designers Contem-
porary with *Noah*. In the Year of the World 2038, the Walls of *Babylon* are reported to be built by *Semiramis* very magnificent, and esteem'd one of the Seven Wonders of the World ; and the Tower of *Babel* is a remarkable Instance of the early Knowledge of Building : Those two famous Pillars, the one of Brick, the other Stone, erected soon after the Flood by the Sons of *Noah*, on which were recorded the remarkable Passages from the Creation down to the Flood : I say these are Testimonies of an early Progress in the *Mathematical* and *Architectural Arts*.

BUT the cultivating and Improvement of *Architecture* is reported to be owing to the *Egyptians*, from their famous Labyrinth adorn'd with *Columns of Porphyry*. The *Grecians* rais'd an everlasting Monument to their Geniuses in the Labyrinth at *Crete* built by *Dedalus*. To *Egypt* the first *Grecian Architects* were

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used to travel, as our modern Architects do to *Rome*, to refine and improve their Genius, and to apply their Studies to the Rules of their Art. Perhaps the *Egyptians*, in building their Labyrinth, imitated Nature; for as Mazes are form'd by various Turnings and Windings, cut through the luxuriant Bushes growing wildly among Woods or Trees, and by forming a kind of *natural Arch*, to shade and make the Paths more solemn and secret, so the Support of those Arches might be some more eminent Trees, which when pruned of their superfluous Branches, represented so many Columns, and by a little more pleasing Form, as to Disposition and Shape, undoubtedly their Labyrinth was delineated and erected, and even the *Orders* themselves must have had their Rise and Institution from such Imitation of *Nature*.

CADMUS, the Grandson to *Agenor* King of *Tyre*, 562 Years after the Walls of *Babylon* were built, brought the *Arts* into *Greece* from the *Phænicians*, and built *Thebes*, call'd so from the famous *Thebes* in *Egypt*: And we find that about 300 Years after the Foundation of *Rome* was laid, that *Phidias*, an *Athenian*, built

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built a Temple of the *Dorick* Order, whose Height was 68 Feet to the Roof: The Antients never made use of but one *Order* in the Height of their Buildings, after the Manner of St. *Martin's* Church built by Mr. *Gibbs*: Now let us suppose the Base, Shaft, and Capital, of the *Dorick* Order, to be eight Diameters in Height, and the Entablature two Diameters, we find that the Diameter of those Columns was six Feet nine Inches and half, which I only mention to shew in what Perfection *Architecture* was at that Time, and in such Esteem, that the most sacred and magnificent Structures were not performed without an exact Regularity and Proportion.

G R E E C E was furnish'd with noble Monuments of Building, which were brought to *Rome* by *Marcellus*. The Temple of *Jupiter Olympus*, the Temple of *Cixcius*, which *Pliny* reports was so rich and curiously wrought, that in all the Joints of the Stone, Threads of Gold were inlaid to separate them : The Temple of *Trallius*, of *Diana*, of *Pallas*, of *Minerva* at *Athens*, of *Apollo*, &c. all so testify the Nobleness, Use, and Beauty of *Architecture* before it was

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brought to *Rome*, that the foremention'd Author relates, that *Cecrops*, the first King of *Athens*, 200 Years before the Destruction of *Troy*, founded a School for the Instruction and Encouragement of *Architects*; and it would only weary your Attention, to repeat more Instances of its Beauty and Perfection, in the early Ages of the World.

I F we reflect on the beautiful Grandeur, and inexpressible Magnificence, of many of those never-dying Works of antient *Greece*; if we think on those lively Ideas which many worthy and immortal Genius's have given us of its State, and also reflect on the Felicity, the Happiness we enjoy, in having the *Art* so carefully preserv'd, when all her stately Cities and Temples are destroyed, and their Names, perhaps, buried in their Ruins: I say, if we weigh this, we cannot value or esteem *Architecture* too much; its Beauties, in spite of devouring Time, will still charm us; the gay, the glittering Image, shines with gleaming Rays of Light on the several Passions of the Mind; according to the Symmetry and Disposition of their Works, we behold them with Admiration, and

they soften us into unutterable Pleasure.

GREECE happily perfected the *Arts*; but *Rome*, rais'd by Ambition, *Prometheus* like, stole *Architecture* from her, and laid desolate its Glory. The Emperors pull'd down their stately *Edifices* and *Temples*, and transported to *Rome*, and there confin'd, the Art and Materials, to raise a Name to immortalize themselves and Posterity.

ROME, possess'd of a Prize so glorious, and of so inestimable Value, and at the same Time Mistress of so many populous Kingdoms, selected together the greatest Artists of those Times, and, by an unwearied Pursuit, trac'd the Paths and Footsteps of the worthy *Grecians*, both in *Learning* and *Government*. *ATHENS* furnish'd them with exemplary Rules; and being naturally aspiring, they endeavour'd to shew the excellent Perfection of *Architecture*, in the several noble Structures and Temples which they erected to the Honour of their Emperors, and the victorious Conquests they made, whose Remains continue even to this Day, in the Works of those great
Geniuses

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Geniuses who flourish'd in the 14th and
15th Centuries.

MARCELLUS, happy in Victory as well as a fine Genius, brought from *Greece* one of the most beautiful and regular Pieces of *Architecture* extant, which is in the *Theaore* call'd after his Name. And *Pompey* the great, though unfortunate Hero, is reported by *Tacitus* to have built the first Amphitheatre at *Rome*. The Baths of *Dio-clelian*, the Palace of *Nero*, the *Rotunda*, the Theatres, and upwards of 50 Temples dedicated to their Deities, their Triumphal Arches, &c. give us a vast Idea of the Perfection of *Architecture* at *Rome*, in its flourishing State under the Consuls and Emperors: They were so much given to building, that they endeavour'd to *excel* each other in Pomp and Magnificence in the public Edifices they erected for the Ornament and Use of the City.

It was a happy Time, when distant Ages, which long since has roll'd away, should have so just a Taste of the excellent Perfection of *Architecture*. The Richness and Expence of so many *magnificent*

nificent Structures in Times of Peace, exercis'd the busy-minded, and kept their Government in a quiet and regular Manner : But when *Architecture* declin'd, Insurrections and domestick Wars chang'd their manner of Government, and unhappily fell a Victim with it, after it had been in a flourishing State at *Rome* upwards of 700 Years.

WE have seen *Architecture* in its beautiful State, in its meridian Lustre and highest Perfection.—Extreams in all Things must suffer Change.—*Architecture* stood long the Glory of *Rome*, but *Fate* suffers it to be buried in Oblivion near 800 Years—successive agés of Ruin and Desolation! Nothing but Fragments are left; and where famous Cities and noble and magnificent Structures once rear'd their lofty Heads, now are nothing but a wild uncultivated Scene of Desolation.

ALLARICUS, King of the *Goths*, about the Year of Redemption 412, took *Rome*; and after that *Oadoacer*: And *Gensericus* King of the *Vandals*, brought 300,000 Men out of *Africa*, and made it waste and almost desolate, in the Year 456.

In short, *Ignorance* and *Brutality* had so infatuated that Age, that they conspir'd to ruin and destroy all the stately Structures which the *Romans* had built for the Encouragement of Arts; for which Purpose the *Visigoths* in *Spain*, the *French* in *Gaul*, and the *Vandals* in *Africa*, unanimously agree to compleat the Destruction; and in the Year 596, the *Saracens* destroy'd and laid in Ashes a fine City named *Messina*, not far from which was the beautiful City of *Cuma*, whereof is the Remains of a fine Arch call'd *Arco felici*, an antient Performance; and at *Naples* remains the Gate of *Castor* and *Pollux*, whose Measures are transmitted to us by *Palladio*.

I HAVE pass'd over a Scene so shocking with as much Brevity as possible, to shew you that though *Architecture* lay buried in Heaps of Ruins 800 Years, though nothing was practised but in the rude *Gotlick* Manner, yet the 14th Century produc'd Genius's who brought *Architecture* from its Tomb, and rais'd it, like the *Phœnix*, to new Life from its Ashes; which was by settling an Academy at *Florence* in the Year 1400, in which were many great and noble Genius's

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niuses and Students, who by inspecting into the Ruins, (if it be not improperly speaking) once more perfected the Art.

IN this Academy was *Lawrence Ghiberto*, a Goldsmith by Profession, who built the Church of *St. Mary deli fiori* at *Florence*, which, among the Judges of the Beauties of *Architecture*, is had in equal Esteem with the Productions of the celebrated *Palladio*.

IT would be endless to mention the great Geniuses of which the Academy was compos'd, or who flourish'd in the 14th and 15th Centuries, since their Works sufficiently testify their Care and Assiduity to preserve the Beauties of the Antients in Building, and of which our young Students in *Architecture* have the Pleasure of many of them translated into *English* for their Instruction; especially those of *Palladio*, which, by the Care of Mr. *Leoni* and Mr. *Cole*, who in a more particular Manner have made the Works of that great Master useful to all that make the Study of *Architecture* their Delight.

BUT

BUT the greatest Happiness to us, is the having *Architecture* in as much Perfection as ever it shone in at *Rome*, and even practis'd by a few Persons, whose excellent Taste of the Art leads them to follow these Paths. But this is chiefly owing to *Inigo Jones*, whose Qualifications, join'd with a felicitous Opportunity of travelling to *Rome* and other contiguous Countries, gave him so sensible and strong Ideas of the Beauties of the Ancients in *Architecture*, that he met with a deserv'd Encouragement in the Practice of the Art; which may be seen in the many beautiful and regular Buildings which he design'd or erected, and by the Care of the Right Honourable the Earl of *Burlington*, are collected together in Miniature.

THE Manner of the antient *Architecture* is Grand and August; there is something Solemn and Awful in it: It consists of large and ample Divisions, a bold *Relievo*, and regularly proportion'd: The Parts were analogous to the Whole, and perform'd with so exact Adherence to Harmonick Rules, that their Buildings, as well

Internal

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Internal as External, so charm'd the Mind of the Beholder, that the Architects were often, by the Vulgar, thought to be inspir'd, when, in Fact, the Beauty and the Pleasure their Works gave, were only the Effects of a well-chosen Symmetry connected together according to the Harmonick Laws of Proportion; which of Necessity produce that Effect upon the Mind through the Eye, as the Chords or Discords of Musick affect it through the Ear.

THEIR Decorum was always just in every Representation, whether serious, jovial, or charming: For this End they establish'd a certain *Modus* to be observ'd in the Use and Application of the several *Orders*; and by these Rules they always kept Pace with Nature, and still, by a strict Observance of them, they produc'd the various Effects for which they were intended. The *Dorick Order* was to grave and solemn Uses, and call'd the *Dorian Modus*: The *Ionick Order* to Riant Uses, and call'd the *Ionian Modus*: The *Corinthian Order* was us'd in Palaces, &c. and call'd the *Lydian Modus*.

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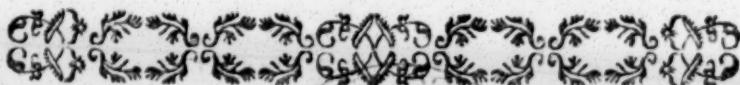
THE Use, Application, and Proportion of these *Orders*, I intend the Subject of ensuing *Lectures*; in the mean while remain,

Yours, &c,

Read to the Society, Nov. 12, 1730.



LECTURE



LECTURE IV.



GENTLEMEN,

■■■■■ SUBJECT so beaten and ex-
■■■■■ hausted as that of *Architec-*
■■■■■ *ture*, will undoubtedly require
■■■■■ a better Genius to engage your
Patience, to some few Remarks and Ob-
servations, which, for my own private
Amusement, I have made since our last
Night's Meeting; and, perhaps, they may
be so illy digested, and irregularly plac'd,
as not to merit your Notice. How-
ever, as my chief End and Design is rather
a Divertisement to some few Friends,
by whose Importunity I have been pre-
vail'd on to renew some former *Lec-*
tures, I shall, without farther Apology,
beg your Attention.

MY last *Lecture* consisted chiefly in an
historical Description of *Architeclure* in
general, confin'd to such particular stated
Periods

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Periods of Time, as have been handed down to us by History or Tradition ; and I think I endeavour'd to make it apparent, what Changes, and Vicissitudes of Fate it has undergone; since it receiv'd that Perfection and Beauty from the *Grecians*, even from *Pericles* to *Marcellus*, and so progressively to *Indigo Jones*, and that great Genius Sir *Christopher Wren*. I now propose to shew the Difference between the Antient, the *Gothick*, and our Modern *Architect*, without Prejudice or Partiality, confining myself to such particular Observations only, which are necessary to instil the first Principles of *Designing* into the Minds of young Students in *Architecture*.

IT may not be amiss, for the better understanding my Design in this *Lecture*, to shew what is the chief Care of an *Architect* to observe; which is *Regularity* and *Proportion*: those are the most essential Parts to be consider'd in the Art of *Designing*. That the Antients had this Happiness of Thought in View in their Performances, is undeni-able; and in many Particulars I shall make it apparent, when I draw a Parallel between the Antients and Moderns; and,

perhaps, in so obvious a Manner, that none of you can mistake what that Difference consisteth in, and by what Methods an adequate Knowledge of the Antients may be attain'd.

IN my last *Lecture* I observ'd to you, that the *Gothick* Architecture prevail'd in *Italy*, and throughout the rest of *Europe*, after the Desolation made by the *Vandals* and *Saracens*, about 930 Years, and so continu'd till the Year 1400, in which an Academy was settled at *Florence*, which reviv'd the antient *Architecture* in many of those Buildings now remaining, which were by them then perfected.

REGULARITY and Proportion are the fine Parts of *Architecture*, and these are perform'd by stated Rules, handed down to us by the Care and Vigilance of preceding Ages, to whom we owe all our Knowledge, as well Historical as Architectural. I say Buildings are to be perform'd by stated Rules, as the several Parts of *Musick* in Concert are; in which, if one Instrument is illy tuned, or in a different Key, it immediately creates a Jarring and Discord, which is
not

not to be remedied without setting aside that Instrument, or putting it in a proper Key with the rest : The same Rules perfect *Architecture*, and are essentially necessary in its Performance ; which I shall shew by and by.

THE *Goths* and *Vandals* were a rude, barbarous, and unpolish'd People ; and, perhaps, that *Architecture* which is call'd the *Gothick*, deriv'd its Name only from its rude and ill digested Form, not much differing from that unrefin'd Part of Mankind ; having in their Aspect and Deportment, a Rusticity and Wildness not to be imitated ; and as they ravag'd *Europe*, and spread themselves over most Part of Christendom, it might become a Proverb amongst Men, to term every Thing *Gothick* which was irregular, disproportion'd, or deform'd.

THE Art of *Designing* was undoubt-
edly lost in those dark Ages, when Men
were led blindfold to Learning, through
the Caprice and Humour of a Set of Men
who endeavour'd to engross that refin'd
Part of our Species to themselves ; and
their Care of something *less* material
might prevent them from speculative En-
quiries

quiries about Arts and Sciences, contenting themselves with the vulgar *Goût* and Opinion, esteeming the severe Discipline of Study, either too difficult, or unworthy of their Notice ; so Errors, by Degrees, were introduc'd, cherish'd, and practis'd, without Regard or Enquiry into the Reasonableness or Unreasonableness of its Performance.

IF we look upon that great expensive Building of *Westminster-Abbey*, erected by *Edward the Confessor*, about the Year 1060, take in all its Parts, its Proportions, or Symmetry, it appears only a heavy, lumpish, unrefin'd Mass of Materials jumbled together without Design, Regularity, or Order ; the Middle Isle is too long and too high for its Breadth : The Symmetry of the External Part has no Analogy to the Internal ; the Multitudes of little Pillars have no Proportion to the Parts to which they are connected ; the Windows are perform'd without Rule, without Beauty, or Design ; and if they happen to start into a kind of Proportion, it is only blind Chance which inadvertently leads them to it. If we take a Survey of all our antient Cathedrals, such as *Salisbury*, so much won-

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der'd at, there is nothing worthy our Notice, but the Height of the Spire, and prodigious Expence Men have been at to perpetuate their Folly to future Times. The Riches which have been exhausted from the Natives of this, as well as other Countries, to erect Abbies, Monasteries, Nunneries, Churches, &c. and the large Endowments left to support them, need not give Men much Trouble to think why so much Pains have been taken to render them as beautiful as their Geniuses would reach to make them.

If the profuse Millions of Money expended in forming so many *Gothick* Buildings in this Kingdom, had only been appropriated to erecting Seminaries of useful Learning, and in so beautiful a Form as even some of our Moderns have a Taste of, with what Elegance and Splendour would this Island shine, and become more than Competitor with *Rome* in all its Glory. Compare old St. *Giles's*, or old St. *Martin's in the Fields*, Churches, with their new, and every one will undoubtedly see what that Symmetry is which gives such Pleasure to the Eye of the Beholder. I do not say these are without Faults, but they are so few,

com-

compar'd with any *Gothick* Edifice, that they seem not to be ; and I believe the Expence of the old trebly exceeded either of the new, in Proportion to the Value of Money when each was built ; we see partly an Instance of this in the Repairs of the *Gothick* Works ; what Time, what Waste of Materials, &c. do those Reparations make.

WHAT I have said is to shew not their WANT of Encouragement, but Taste and Genius, at the Times when that rude, irregular way of Building prevail'd throughout *Europe*; while the noble Structures of antient *Rome*, the Baths, Triumphal Arches, Temples, &c. lay demolish'd by envious Time, and scarce any thing remain'd of pure *Architecture* but its Ruins and Name.

As Palladio, if not the first, was the chiefest Restorer of Antiquity, and by whom our Moderns are principally guided; I shall endeavour to shew you his Blemishes as well as Perfections, whereby you will be render'd capable of avoiding the one, and embracing the other. As Buildings, by Time, were beautified and regulated under certain Proportions allot-

ted by the Antients, so they were adapt'd to the Strength requir'd in the Edifice to be erected ; and under the Difference of these Proportions of Heights and Distances which the Antients made use of to each *Order*, are still preserv'd all the Beauties contain'd in *Architecture*, and are to be varied as extensively as the Mind can invent, differing only in the Form or *Modus* ; as the Multitudes of Tunes are perform'd by only the seven Notes in *Musick*.

UNDER these Proportions may be consider'd the *Orders* distinctly, either with, or without their *Pedestals*, those being contriv'd only to raise the *Column* or *Pilaster* to such a Height which was requisite to perform its Office, without having the Assistance of another *Order* over it, which is repugnant to all the Rules of *Architecture*, and the Practice, in particular of the Antients.

PALLADIO justly observes, that there is an absolute Necessity of a strict Adherence to the Practice of those Rules and Proportions of the Antients, which those Persons who measur'd the Ruins of Antiquity laid down from the Buildings

ings themselves, which they collected in Fragments, and transmitted to us by particular Measures; though, perhaps, he sometimes follows the Caprice or Humour of the Person for whom he built, or the Custom which most prevail'd in *Italy* at that Time; for he sometimes deviates from that Nobleness and Grandeur which appears in those Buildings erected with one *Order*, which may be easily discern'd by comparing Plate 2d, 54th and 55th, with the 15th, 35th, 47th and 60th of the second Book; the two first of which being of the *Ionick*, and the other two of the *Corinthian* Order, with proper Intercolumniations, only one *Order* in the Height of the Building.

THE Antients never exceeded three Diameters Intercolumniation, except in the *Tuscan* Order; but then they never made them less than one Diameter and half, generally approving the Mean between three Diameters and one and a half, which is that Proportion call'd *Eustylos*, of two Diameters and one fourth, appropriating it as a mean Proportion to the *Ionick* Order, the *Diastylos* to the *Dorick*, and the *Systylos* to the *Corinthian*, which in

all their Temples and Edifices they strictly observ'd ; as may be easily prov'd by the Temples of *Vitruvius*, and the *Roman Antiquities* collected by *Serlio*, *Palladio*, *Desgodetz*, *Montfaucon*, and others, who measur'd exactly the Remains which Time had left.

THE Antients and their Imitators to follow those due Proportions in Intercolumniations, were, that if small Columns are made with large Intercolumniations, it will very much diminish their Beauty ; for the too great Quantity of Air or Vacuity between, will lessen their Thickness in Appearance to the Eye ; and large Columns, such as those at the Admiralty, by having small Intercolumniations, makes them appear heavy, thick, and disagreeable ; more especially as the Sides of the Building, instead of falling from the Front, advance, and contract the circumambient Space which should add to the Proportion of so large Columns.

THE Antients taught us, that if the Distance or Intercolumniation be three Diameters, the Column should be seven and one half ; or eight Diameters high, as the

the *Dorick*, having the *Diastylus*; if two and one fourth, the Columns should be nine Diameters high, as the *Ionick*, or Proportion *Eustylus*; and if of two only, the Columns should be nine Diameters and one half high, as the *Corinthian*, with the Proportion *Systylus*; in which the Uses may serve for that Variety of Examples of Intercolumniations which *Vitruvius* makes Mention of in the second Chapter of his third Book.

IF the Antients, and their Imitators in *Architecture*, have been thus curious and observant of the different Intercolumniations, they ought as closely to be follow'd as any Proportions of *Architecture* in General and Particular; and if to the *Corinthian* Order I give six Diameters Intercolumniation, I may as well make its Height twelve, and let the Capital be two Diameters, the Monstrousness of such Proportions would soon discover the Weakness and Singularity of the Person who should so far deviate from the establish'd Rules of Antiquity: Therefore I shall from hence make it appear, that two *Orders* erected one over the other in the same Range of Building, is contrary to all the stated Rules of *Architec-*

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ture, and renders a Design so perform'd, disagreeable to the Eye, and contrary to the Mathematical Principles of *Architecture*.

FIRST, It is contrary to all the stated Rules of *Architecture*. If the *Ionick* Order has been by the Antients allow'd to have only two Diameters and one fourth Intercolumniation, and on that you erect the *Corinthian* Order, whose Diameter at Bottom shall be equal to the Top of the Diameter of the *Ionick* Column underneath, then the Intercolumniation of the upper or *Corinthian* Order, instead of being the Proportion *Systylos* for the *Corinthian* Order, will increase to more than the Proportion *Dyastylos*, or three Diameters allow'd only to the *Dorick*: Therefore it is the reversing the Rules of *Architecture*, to give such Intercolumniations to one *Order*, which have, perhaps, never been extended to another more capable of discharging the Weight, which both Art and Nature is suppos'd to have Place there to support.

SECONDLY, It renders a Design so perform'd, disagreeable to the Eye, and contrary

contrary to the Principles of *Architecture*. For Instance, the *Dorick* Order is more robust and massy, and by its Proportions render'd more capable of supporting any Weight, than the *Ionick*, for which Reason it has a greater Intercolumniation given to it; if therefore to the *Ionick* Order I allow the Intercolumniation of the *Dorick*, I consequently revert the stated Rules of the Antients, and lay on it a heavier Burden than Art and Nature intended for it: And if on the *Dorick* and *Ionick* I place the *Corinthian* Order, I give five Diameters or more Intercolumniation, which even the *Tuscan* is not allow'd, unless in *Arcades*; therefore they must be contrary to the Mathematical Principles of *Architecture*. How can a light, effeminate, tender *Order*, support at such prodigious Distances, a Burden which the more robust and strong have been, by repeated Practices, prov'd incapable of sustaining?

THIRDLY, The introducing more than one *Order* in the Elevation of a Building, if not a modern, is a capricious Invention. Observe the Temples and publick Edifices of the *Greeks* and *Romans*; they have but one *Order*, because the *Orders* can-

not be suppos'd to support a Floor if they are Insular ; and being attach'd to a Building, the Walls discharge the Weight of the Floors, the Duty of the Columns being only to support the Entablature and its dependant Weight. Likewise the Beauty and Grandeur of those Designs of one *Order* only, may be seen in the Temples, &c. I before mention'd ; especially if you compare them with the 54th and 55th Design of *Palladio's* second Book of *Architecture*.

WHEN I mention those two Designs of *Palladio*, I am to observe, that he so far disowns them for Examples of Practice, that he says they were made while he was young, and calls them in his Description, New Inventions of his own, and had not been executed ; and if *Palladio* seems sometimes inconsistent with himself, our great Moderns have fallen into as unpardonable Errors. Even the immortal Mr. *Gibbs*, in that beautiful and noble Building of St. *Martin's* Church, has so far outdone that Design of St. *Mary* in the *Strand*, that the Genius of the same Author is no way visible ; and they seem as different in the Design, as if it were one of *Inigo Jones*,

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Jones, and the other of Sir John Vanbrugh's.

I CANNOT help making Use of that fine Distich of Mr. Pope in his *Essay on Criticism*, when he speaks of Men differing from themselves at different Times, he says,

*As when the Wit of some great Genius shall
So overflow, that is, be none at all.*

Therefore at that Time Palladio might have a Superfluity or Overflowing of Genius.

BUT to return to the Practice of the Antients in raising Buildings to a requir'd Height: They either erected the *Orders* on a Pedestal, or on a Rustick Basement; or if that prov'd insufficient for its Magnitude, they plac'd an Attick over the *Order*: This has among the Antients been frequently practis'd, especially in their Triumphal Arches, which our Moderns may be said to have justly imitated.

THAT which I now principally aim at, is to have every one of you judge in

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this nice Crisis of Designing for himself; for which Purpose I propose, for your Speculation, two of the greatest, the noblest, and most noted Buildings in the World; both erected in different Countries, both dedicated to the same Use, and both the Glory and Ornaments of the greatest and most renown'd Cities in the Universe: I say, those two Buildings *St. Peter's at Rome*, and *St. Paul's London*, I place before you, as Patterns, to engage your Notice and decisive Judgment. *St. Peter's at Rome* had its first Design from *Bramante*, a famous Architect, who flourish'd in *Italy* about 250 Years since; and receiv'd its last Model from the great *Michael Angelo*, about 20 Years after the Decease of *Bramante*; and both design'd it, as it is now erected, with only one *Order*.

St. PAUL's was the Design of our own Countryman and great Architect *Sir Christopher Wren*, a Genius, for the Principles of the *Mathematicks* and *Architecture*, universally esteem'd; but, I think, has so far deviated from the Paths of his Pattern, *St Peter's*, that he has thought proper to omit the *Attick* above the *Order* which is in *St. Peter's*, and has made

two *Orders* one over another. The Similitude of the rest of the Parts, when you compare them, will, perhaps, give you a singular Pleasure, beyond what I can describe, without delineating the Objects themselves, and placing them in that just View which of yourselves you will undoubtedly take.

FROM this Point I might descend to many general Observations of Form, Magnitude, and Proportion, and from thence to Situations, Materials, and Orders in particular; but as this *Lecture* has already intruded on your Patience, I shall refer it to, perhaps, some ensuing, when Time and Opportunity offers, and that it may be thought worthy your Notice.

GENTLEMEN, in a Description of this Kind, it is impossible to make use of those florid Expressions, those eloquent Descriptions and rhetorical Sentences, which might have been expected from me, in a Discourse of another Nature: Therefore the Defects in my Language, must not be imputed to my want of Abilities in this Particular. I have only consulted the Genius of my Friends, the Truth

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Truth of my Assertions, and the Sincerity of my Desires, in being necessary to every good Office which may procure Knowledge ; and if I miss in my Design, I hope the want of such Success will not be imputed to the want of Judgment, in one that at least meant well ; who is likewise,

Gentlemen,

Your most humble Servant.

Read to the Society, Dec. 31, 1732.



LECTURE



GENTLEMEN,

AT the Conclusion of my last Lecture, (which was a Description of the Antient, the Gothick, and our Modern Architecture) I propos'd to shew you what kind of Situations suit with the different Orders, and what kind of Proportions are to be used, for preserving a strict Regularity and Harmony; with some useful Reflections on Examples of publick and private Buildings; in which the Application of the Orders, and Choice of Situation, are, or have not been consider'd by the Builder; which I now propose to make the Subject of this Lecture.

WHEN I speak of Situation, it must not be suppos'd that I mean proper Choice of it in Towns or Cities, where every

every *Order* is promiscuously perform'd, and, perhaps, in the same Pile of Building; but I would be understood, such Situations which are the proper Choice of Retirements, where a Sameness should be preserv'd between *Art* and *Nature*.

CONVENIENCE is certainly the first Thing to be consider'd in Choice of Situation; what Supplies of Water, of Provision, of Carriage, &c. can easily and speedily be attain'd: For without these principal and necessary Conveniences, for the Support of little Commonwealths of Families, a Structure would soon be deserted, and left a Residence only for the Fowls of the Air to retire to, from the Inclemencies of the Seasons, and a Place of Repose.

BUT it is at the same time to be observ'd, such Situations which produce such Supplies, are not difficult to be found: And, perhaps, with the Additions of a healthy and fertile Soil, uninterrupted Vistas and Avenues, an agreeable River, or some opening Lawn, or at least a distant Groupe of Hills and Vales diminishing from the Eye by a pleasing Gradation: I say such an agreeable Spot of

of Ground, where Nature wantons in Luxuriancy, is the first Care of a Builder; and by a proper Design compos'd to blend Art and Nature together, must consequently render it the Delight of the Inhabitant, and give an unspeakable Pleasure to the Eye of every Beholder.

A PERSON who builds on such a useful and delightful Glebe, must doubtless not only agreeably improve that *Fortune* which Providence has supplied him with, but likewise perpetuate his Judgment to his Posterity; it must render his Off-spring a Happiness and Pleasure, which gives a true Relish to Life. But he who, on the contrary, lays the Foundation of his Fabric on a barren or unpleasant Soil, or on a bleak Wild which Nature seems to have deserted, is, consequently, only perpetuating his Folly to future Ages.

BUT it is to be observ'd, that every one that builds has not an equal Felicity in the Opportunity of chusing a fine Situation; therefore some must fall into little Errors and Inconveniences: But it were better to have an ill-shap'd Hand or Leg, than to have none. Therefore Conveniency must he preferr'd to Beauty; and the fine Prospect, the opening Lawns,

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the distant Views, must give way to a more healthy, a more temperate, or more convenient *Soil*.

I MIGHT here descend to shew you by what Methods you must proceed to distinguish a healthy Soil, such as by the Complexion of the Inhabitants, the Health of Cattle, and even by the Soundness of *Stones* and *Trees*, are known; and in the choice of *Water*, concerning its Goodness, by being in running Streams, not stagnated, muddy, or leaving any Sediment in the Vessel, its Remoteness from Lakes or Ponds of Water, &c. But as this would divert your Thoughts from the Application of Buildings, to a proper Situation; I shall refer it to another *Lecture*, or to *Alberti*, or *Andrea Palladio*, who has said what is necessary on this Subject, in his first and second Books of *Architecture*.

As Nature requires a Sameness, when Art is made use of to add Lustre to her Beauty; so Art never more agreeably pleases us, than when she has a Resemblance of Nature: Therefore, by a kind of Sympathy and Attraction, when both are blended or mingled together, so as to be preserv'd without starting into Extreams,

streams, they must necessarily give that Pleasure to the Senses, which alone can flow from the nice Hand and Skill of the Designer.

IN this, I think, our modern Way of planning Gardens is far preferable to what was us'd 20 Years ago, where, in large Parterres, you might see Men, Birds, and Dogs, cut in Trees; or, perhaps, something like the Shape of a Man on Horseback— (pardon this Digression.)— In *Architecture* Men have fell into Methods equally absurd. In some Places, may be seen little Boys supporting a Burden of a Monument that had been the Labour of 10 or 12 Persons to place there; or a *Corinthian* Column set in a Fish-pond, and a *Tuscan* at the Entrance of a Summer-house. I say, such Inconsistencies in Nature always hurt the Imagination, and we view such Objects with more Pain and Surprize than any Pleasure they can possibly give us.

A CHAMPAIGN open Country, requires a noble and plain Building, which is always best supplied by the *Dorick* Order, or something analogous to its Simplicity. If it have a long extended View, it were best to range the Offices

in a Line with the Building; for at distant Views it fills the Eye with a majestick Pleasure. A Situation near the Sea requires the same, or rather a Rusticity and Lowness: The Vapours of the Sea, by its saline Qualities, expand themselves some Distance, and always are a decaying Principle; and with the boisterous Winds which blow from it, must, consequently, require a Power forcible enough to withstand its corrosive Quality.

THE cheerful Vale requires more Decoration and Dress; and if the View be long, or some adjacent River runs near it; the *Ionick* Order is the most proper; where Nature seems to *wanton* in Dress, and is gay in *Verdure*, she requireth Art to assist and embellish her, and the Liveliness of the *Ionick* Order can deck and garnish the Glebe. If the Spot be an Ascent, and some distant Hills or Wood environ the back Part, (in which I suppose the Front a South Aspect) then a few Ornaments may be scatter'd in proper Parts, to give it an enlivening Variety; — but Care must be had not to use Superfluity. If it be on an Eminence, and surrounded with Woods, the principal Avenues should be spacious: *Portico's* give a grateful Pleasure to us

us in the View, and more so, if the Front is not contracted by the Avenue, nor continue too near it, to take off the proper Shades and keeping of Design.

THE *Ionick* Order is of the three Greek Orders the most applicable to Situations of various Kinds ; and if I say her Measures and Proportions more pleasingly attract the Eye, it is not without Reason : The Parts are analogous to Nature, in which she has been so nicely pos'd between the Rusticity of the *Dorick* and the Luxuriancy of the *Corinthian*, that I am more apt to believe the *Ionick* Order was invented as a Mean between the *Dorick* and the *Corinthian*, than that the *Ionick* was in so beautiful Proportion before the *Corinthian* Order was invented.

THE silent *Streams*, the gay, the wanton *Scene*, requires the *Corinthian* Order ; where Nature is gilded with lively Land-skips, where the Verdure is blended with Flowers, which she decks herself with, and where the party-colour'd Painting of some opening Lawn garnishes her in all her Pride ; then the *Architect* must have Recourse to Fancy, must mingle his Flowers with Nature, his Festoons of

Fruits, &c. must deck the Fabrick, and be Nature in every thing but Lavishness; the same Chain of Similitude should run through the Design, rising from one Degree of Dress to another, still preserving the Consistency of the Parts with the Whole, and keeping that *Mediocrity* in Ornament which the Nature of the Design requires.

IF this proper Application of the *Orders* seem necessary in Seats for Retirement, I would beg leave to observe, that Cities and Towns require a just and nice Consistency in Things. The Prospect, it is true, cannot be had, but the Expences of erecting many irregular Buildings might be appropriated to better Taste and Fancy; publick Buildings in particular: A gay and lively Design of the *Corinthian* Order, is illly appropriated to an Hospital, and a Palace would be worse with the *Tuscan*.

A SPACIOUS Square, or such an open Place as *Lincoln's-Inn-Fields*, might give room for Elegance and Design; but where a proper Distance is wanting to view a building at, it makes an uncouth Figure. If you would see the Proportion of a Man, you must be so far distant

tant as to take the whole of him in the Eye at once, and Buildings require the same Optical Rules.

GREENWICH-HOSPITAL has certainly a Nobleness and Grandeur in the Design; but I could wish that it stood a Mile from the River, or that it had been erected with the *Ionick* Order: And, I think in this too, the Design is not justly appropriated, because two *Orders* finish the same Range, the *Corinthian* is next the River, and the *Doric* continueth through the Colonade to the South Courts. I must say, *York-Stairs* have the justest Application of any thing I ever saw yet attempted, in relation to a proper Adaption of Design.

IF we retreat to a Rural Situation, *Hampton-Court* furnishes us with a proper Scene, and Sir *Christopher Wren* has justly appropriated his Decoration, not running into the Extreams of *Plainness* or *Luxuriancy*. The same Propriety of Invention has attended that Design of *Lord Castlemain*, in which *Colen Campbell* was *Architect*. As that Situation has a Mixture of Openness and Gaiety, he has blended Solidity and Airiness extremely agreeable.

KE N.

KENSINGTON-PALACE affords a long Tract of Design, and the Invention of an *Architect* need not be rack'd to suit a Front analogous to the Situation: The Avenues are spacious, and afford all the Propriety and Delicacies of a *Corinthian* Profile, which is now sunk into the most irregular and disproportion'd Simplicity that has been any where perform'd.

THIS ill Application of Fancy in the Designer, has led many into unpardonable Errors; and that Situation of Sir *Gregory Page's*, was not worthy of so regular a Pile; the Glebe is unfertile, nor does any distant Prospect, worthy Notice invite the Eye, and the principal Front is to a barren Wild, where no Rivulet glides by, no Picturesque Landskip nor pleasing Shades; every thing sinks into Lowness and an uncultivated Scene.

GENTLEMEN, This short Sketch of Situation and Choice of Design, will, I hope, give you a just Idea of what sort of Buildings are requir'd by various Scenes of Prospect; for the Designer is to adapt his Building to the Situation, it being, perhaps, impracticable to attain one

one suitable to his Design ; and it often happens such Impropriety makes a Modern Building look either like an old antiquated Castle, or else it dwindleth into a luxuriant Folly.

BUT this proper Choice of Situation is not the only Care of an *Architect* ; Proportion likewise requires our nicest Application to attain. To see on a considerable Eminence, the length of a Front little, and the Height disproportion'd, would appear as absurd as to behold a Front in a Vale long and extended, and elevated only one Story. And this Choice must likewise be dependant upon Rules ; for as the jarring of Instruments by blind Chance cannot possibly please the Ear, so the Disproportion of the Parts of any Object must naturally shock the Eye ; and in both unerring Rules must so proportion the Sounds, and dispose the Parts, that the whole may be compleat Harmony.

NATURE has taught Mankind in *Musick* certain Rules for Proportion of Sounds, so *Architecture* has its Rules dependant on those Proportions, or at least such Proportions which are Arithmetical Harmony ; and those I take to be

be dependant on Nature. The Square in *Geometry*, the Unison or Circle in *Musick*, and the Cube in *Building*, have all an inseparable Proportion ; the Parts being equal, and the Sides, and Angles, &c. give the Eye and Ear an agreeable Pleasure ; from hence may likewise be deduc'd the Cube and half, the Double Cube ; the Diapason, and Diapenté, being founded on the same Principles in *Musick*.

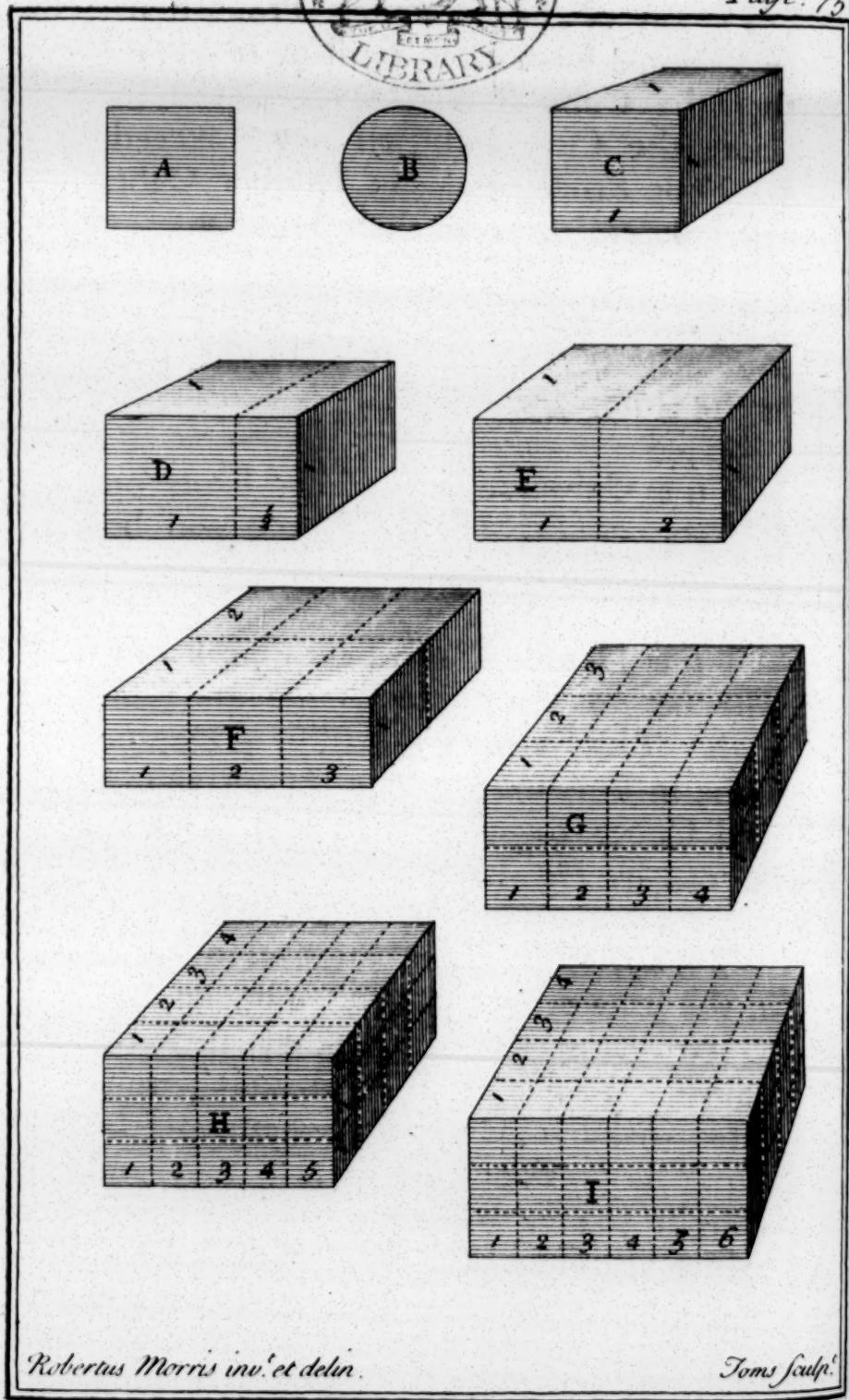
FROM hence may be consider'd likewise the Subdouble Proportions of 2, 3, and 4, and their Duplicates, and 3, 4, and 5, likewise of 3, 4, and 6; all which I propose to explain, and apply their Uses to the external Part of Building ; and it may be observ'd, that as these Proportions have never been publish'd with regard to Building, I hope this Application of Numbers will be an agreeable Speculation for your future Enquiries.

BUT I am to observe, that even a Building of 1000 Foot long may have the same Proportions, by breaking forward for the Cube, and sinking to the Diapason, and changing the same Line to a Diapenté, which Mixture of proportion'd Parts will make the whole agreeable. I F

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Page. 75.



Robertus Morris inv. et delin.

Toms sculp.

IF any of the following Proportions be to be perform'd, it must be observ'd, that the Cube should never exceed 50 Foot; the Cube and half never exceed 60 Foot Front, and the Double Cube never should be more than 80 Foot.

IF the Cube be 50 Foot Front consequently the Depth and Height will be the same. See *Fig. C.*

THE Cube and half, if the Front be 60 Foot, as *Fig. D.* the Depth will be 40, and Height 40.

THE Double Cube of 60 Foot Front, will be 30 Foot deep, and 30 Foot high: This, which is call'd a Double Cube in Building, is only the placing of two Cubes together in Plano; as may be seen by *Fig. E.*

THE Arithmetical Proportions flow in the same progressive Channel, and are to be made Use of as Necessity requires. 4, 3 and 2, with their Duplicates, make an agreeable Front. If the Front be 60 Foot, the Depth is 45, and Height 30; as is shewn *Fig. G.* by dividing it into 4, the Depth is 3, Height

Height 2; or if it be 80 Foot Front, the Depth will by the same Rule be 60 Foot, and Height 40.

THE Arithmetical Proportion of 5, 4 and 3, if the Front be 60 Foot, the Depth will be 48 Feet, and the Height 6. See *Fig. H.* Or if the Front be 80 Foot, will produce 60 Foot deep, and 48 Foot high; divide the Front into 5 Parts, the Depth is 4, and Height 3.

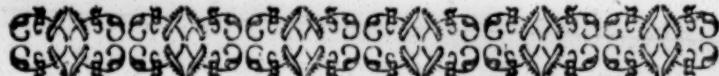
THE Arithmetical Proportion of 6, 4 and 3, will, if the Front be 60 Foot, produce the Depth 40, and Height 30 Foot; as the *Fig. I.* Or if the Front be 90 Foot, the Depth will be 60, and Height 45.

I SHOULD now proceed to shew the Uses of them, in their Application to Situations and Orders; but as I have, perhaps, already intruded on your Patience, must beg leave to make it the Subject of my next Lecture; and am in the mean time,

Gentlemen,

Your most Humble Servant.

Read to the Society, Jan. 21, 173 $\frac{3}{4}$.



LECTURE VI.

N my last *Lecture* I describ'd the Beauties of a Rural Situation, and a proper Choice of the *Orders* to be erected in such Situations ; adapting them in their Decoration and Dress similar to the Beauties such retir'd Villa's require ; pointing out likewise, where Nature seem'd to wanton in Luxuriancy, how to blend Art so agreeably with her, to give a Pleasure to the Eye of the Beholder ; and compleating the same with certain unerring Proportions to be made use of in Buildings of various Magnitudes, so as to render those Proportions useful by universal Rules.

I N Descriptions of this kind, *Gentlemen*, it will be almost impossible to explain every Term in Art, or make myself so intelligible, as by an ocular View of the Designs themselves : I must therefore

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fore content myself with making only such Remarks as are useful, in forming a just Idea of the general or particular Extent of *Architecture*, as it relates to Beauty and Convenience; in which I shall so endeavour to explain myself, as to give you all the Satisfaction that can be expected from a bare Description, in which Words only can convey the Object to your Minds.

BEAUTY, in all Objects, spring from the same unerring Law in Nature, which, in *Architecture*, I would call Proportion. The joint Union and Concordance of the Parts, in an exact Symmetry, forms the whole a compleat Harmony, which admits of no Medium; it is agreeably blended through the whole, and diffuses itself to the Imagination by some sympathising Secret to the Soul, which is all Union, all Harmony, and Proportion.

CONVENIENCE, is the just supplying of Wants; it is the Handmaid to Nature, assisting us to what is necessary in Life; without being incommoded by it, we receive our Meat in due Season; our Sleep without Disturbance; our Ease,

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our Pleasure, is centred in Convenience. Our Choice of Situation may delight the Eye, but I observ'd in my last *Lecture*, that Beauty, or what I now call Proportion, must give way to this more important one, Convenience. With these two the *Architect* is to endeavour to become not only acquainted, but likewise Master of, before he attempts to launch into the Field of Designing: But when those are attain'd, all the Difficulties in *Architecture* vanish, and he can delineate his Ideas from the Cottage to the Palace, so as to render them worthy of the noblest Encouragement and Imitation.

THERE is this great Disadvantage arises in Buildings which are, or are to be erected in Cities or Towns, that neither Proportion or Convenience can be had. The Irregularity or Littleness of the Spot, prevent the *Architect* from shewing his Skill in Designing: But it is to be observ'd, that even that Irregularity or Smallness requires his Judgment to dispose of in the most advantageous Manner; and sometimes Nobleness itself may be seen in Miniature, when delineated by a skilful Hand. But, perhaps,

haps, the same Spot, design'd by another, would appear disproportion'd and inconvenient. When I speak of Designs in general, I would not be understood to mean those little Buildings for Shops, or small Tenements; but those of a higher Class, whose Inhabitants may be such to whom Fortune has been propitious enough to make happy under her Protection; though sometimes those of a lower Degree require the Direction of the *Architect*, and his Skill to perform.

IN Towns and Cities, where Trading, and Business of other Natures, require the Attendance of Persons of superior Rank, various Parts of it are wanted for their Convenience: The Merchant requires the City for his Residence; Pleasure here gives way for Business, and Proportion is set aside for Convenience of Warehouses for Stowage of Goods and Merchandise, which are the Produce of various Countries; the Wine-Merchant for Cellars, the Cotton-Merchant for dryer Store-Rooms, &c. in all which the *Architect* is to be acquainted with Convenience.

ON the other Hand, the Courtier resides in the more retir'd Parts of the Town,

Town, where Spaciousness and Grandeur are the Object of the Designer: Here, indeed, he finds generally the most Regularity in his Spot of Ground, and more Space for his Fancy to move in: But as their Residence in Town is only a small Part of the Year, and where the Grandeur and Magnificence equal to their Quality, is not so much requir'd as in their Country-Seats, such Noblemen's Houses are to be consider'd only as an Accommodation for themselves during a short Attendance on Court or Parliament; like the Merchant's House the *Architect* is only to consider the Convenience, suitable to the Dignity of the Person, as far as the Spot will admit, reserving such Apartments for Grandeur as may be least liable to be incommoded.

FROM what I have said of Proportion and Convenience, as they relate to Town Houses, there is one unfortunate Exception to both, in which, even by the Report of all Travellers, *Rome* itself might have been outdone, both in Magnificence and Proportion, in Delicacy and Convenience: Space is not wanting, an excellent Foundation, the most healthy Part of this Noble City, and the Verge

G of

of Retirement to the Country, near the Court, the Center of Business, supplied by Water, and all other Provisions, even to Profuseness ; and yet that nice Application of *Design* is wanting. There is a Field for Fancy, the World cannot shew a Spot of Ground built on so Noble, and so capable of producing four magnificent regular Sides : If every Builder had agreed as to the external Part, to have made each Range as regular as the East Side, or with that Grandeur of Esquire Shepherd's on the North, I may affirm, future Ages might boast, that the greatest and most regular Buildings on one Spot of Ground, was erected near the City of *London*, call'd *Grosvenor-Square*.

LET us now retreat into the Country, and view the Advantages of a Rural Situation, where no Impediments lie in the way to Proportion and Convenience, in which the Care and Skill of the *Architect* is under no Restraint ; where there is room for Dress and Decoration, for Grandeur and Usefulness, appropriating the Design to Purposes requir'd by the Person who is to be the Inhabitant. A Gentleman who delights in mixing Profit with his Pleasures, by keeping some Part of

of his Estate in his own Hands, and making the most Advantage of the Produce of his Ground, the Center of it is the most proper; for then, by a moderate Fatigue, he may view the whole himself whenever he thinks fit, and make Improvements round about it; but if possible it can be built near a River, it will be vastly advantageous, and greatly conduce to its Beauty and Convenience, for by that Means, Carriage of Things in the Produce of the Estate is render'd less expensive, the Prospect will be more agreeable, it will refresh the Air, and serve the Purposes of the House, and, if requir'd, in the watering the Meadows, or Pasture Land, Gardens, &c. in all which Convenience must have the Preheminence.

IF the Situation cannot be had near some navigable River, at least, if possible, near some Brook or running Water, and as distant from dead and stagnant Waters as conveniently can be, because those impregnate the grossest and most unwholesome Air, which by building in elevated or more open Places, may be avoided; for where the Air is free, and in a perpetual Motion, and the Earth through its

G 2 Declivity,

Declivity, purg'd from Damps and Vapours, it generally renders the Inhabitants healthful, gay, and very well complexion'd; but due Care ought to be had that the House be situated near such Water that has no particular or offensive Taste, that it be clear and light, its Bed on Sand or Gravel, without Mud or Slime to create a Sediment.

THERE is one principal Objection to Situation in general, which is carefully to be observ'd, that is, not to build in Vallies that are enclos'd by Mountains or Hills; because Houses which lie conceal'd in such Obscurity, besides the Disadvantage of their being depriv'd of Prospect, are prejudicial to Health; the Earth being impregnated with Rains which settle there, will send forth contagious Vapours, and the Provisions carried into such Magazines and Granaries, are corrupted with Moisture; if, on the other hand, the Sun can penetrate into those Vallies, the Reflection of its Rays will create excessive Heats; if not, then a perpetual Shade will render the Inhabitants dull and indolent; when the Winds blow into them, they are keen and boisterous, because of the narrow Passage

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through

through which they must pass, and when they cease to blow there, the Air will become gross and sickly through its Stagnation. These Cautions observ'd, I shall now pass to Remarks on Seats built only for Pleasure or Retirement, where the command of an ample Fortune puts the Inhabitant above the Fatigues attendant on Rural Employment, in which they partake the Pleasure without mixing with it the Labour.

NOBLEMENS Seats, besides Grandeur, are erected for a Retirement, or as a Retreat from publick Cares, perhaps in some silent unfrequented Glade, where Nature seems to be lull'd into a kind of pleasing Repose, and conspires to soften Mankind into solid and awful Contemplations, especially a curious and speculative Genius, who in such distant and remote Recesses, are free from the Noise and Interruptions of Visitors or Business, or the Tumult of the Populace, which are continually diverting the Ideas into different Channels : Here Proportion, Regularity, and Convenience, are to be aim'd at in the Performance of the Fabrick, which should be erected with the utmost Symmetry and Exactness.

THE first Care in respect to Decoration, is the justly appropriating the Design to the Situation, pursuant to the Rules I laid down in my last *Lecture*, so blending Art and Nature together as to render it convenient. As these Seats are most used in the warmest Seasons of the Year, Shade is chiefly wanted ; and VISTA's through the Design each Way, besides the Pleasures of some distant Prospect, are Inlets to the refreshing Breezes, which enliven the Spirits, and, by cooling the Rooms, make the Seasons more agreeable : The Entrances should be Grand, the Rooms Noble and Spacious, and should be contiguous to each other, without the Interruption of Passages or Stair-cases, which should be so plac'd, that each Room might have a Communication to them without incommoding another.

THE South Aspect is most preferable for the principal Front, if it can be conveniently had, in which should be the Rooms of State and Grandeur. The East is the most proper for a Library, because the Morning Sun gives an enlivening Warmth to Nature, and then the Spirits are

are more open, more active and free in the Choice of beautiful Ideas, to furnish the Fancy of those whose Genius leads them to the Study of the Curiosities of Art or Nature.

THE principal Floor should be elevated above the Level of the Ground at least two Foot, because it gives you the more extended Prospect, by being rais'd above Objects which may be an Impediment in the View ; it likewise is more advantageous in having proper Lights to the lower Offices ; in Nobleness of Aspect : In short, the Magnificence of a Building is dependant on the elevating it so far above the Eye as to invite the Beholder to consider the taking in of the whole Scene at one View, where Distance can be had ; and which should be at such an Angle that the whole may be seen without moving the Eye, which is by making the Point of Distance from the Center of the Building equal to half the Length and Height of the Building added together. Supposing a Front 100 Foot and the Height 40, those added together, half that Length, which is 70 Foot, is the proper Point of Sight where to view the whole Fabrick distinctly, without breaking

88 L E C T U R E S O N
through the Rules of Opticks, in lofty
Buildings.

IN low Buildings which are of an extended Length, another Point of Distance may be used, which is by making the Distance or Point of Sight from the House equal to the Length of the Front ; that is, if the Building be low and 100 Foot Front, the Point of Distance will be 100 Foot : And some Mathematicians have to this preferr'd another Rule, which is by making the Point of Distance an Equiangled Triangle ; that is, if the Front be 100 Foot, the Point of Distance shall be 100 Foot from the Extremity of the Building, and not from the Center, as is propos'd in the preceding Method.

IN Hunting-Seats, which are proper for an open Champaign Country, one Story in Height is sufficient ; for as the Seasons for Hunting are in that Part of the Year which is generally cold, and require a temperate Warmth, to keep equal to that created by the Exercise ; it must be the Care of the *Architect* to preserve the Lodgings as warm as can be, by making as few Doors and Windows into those Rooms as Conveniency will permit,

permit, for as they are so many Inlets of Air, they must consequently render the Rooms more Cold, and uncomfortable for Lodging. All Winter Houses should be so contriv'd, while those for the Summer should be more open, to cool and make the Dwellings pleasant and agreeable.

IF the Soil be dry, and the principal Floor be level with a beautiful Garden on a Terras, with some remarkable Prospect, it were best to place the lower Offices in a Fossee, in which these Advantages will arise; an easy Access to the Apartments, and Pleasure of Retirement into the Garden, without being overlook'd by Servants from the lower Offices; and by the Fossee a clear open Air is communicated to the Offices, and a Light equal to that of the principal Floor, and this Convenience, that all the Ground (which in other Buildings not so plac'd) that lieth against the lower Part, and continually damps and renders it unhealthy, is this way remov'd, and the lower Offices become dry enough for Lodgings, if requir'd. As to the Distribution of the Apartments of the lower Offices, they are always to be consider'd, with the Wants

Wants and Conveniencies requir'd by the Difference of Families, Fortune, or Uses ; where the *Architect* is to consult the general Design of the Building, and so adapt his Proportion and Convenience. In the principal Apartment, Proportion is to be chiefly consider'd, and join'd with Convenience ; where I am to observe such Proportions as are to be perform'd by Rules. As in my last *Lecture* I propos'd Proportions for Buildings themselves, as to the Magnitude of the external Part, by the same Proportions I intend now to describe the internal Apartments, so that each Room may bear an Analogy and Connection to each other ; And if in some Places I am constrain'd to fall in with the Opinion of others, in this Part I have Recourse only to my own Fancy : I love to strike out of a beaten Path sometimes, only to walk the more easy, or at least to prevent Disturbance from the busy Multitude ; and then I have more Room for the Imagination to work upon, and, perhaps, not a little Pleasure in communicating my Sentiments to Friends without endangering their Censure.

As I consider the Affinity between *Architecture* and *Musick*, so I have produc'd those Proportions from the same Rules: In *Musick* are only seven distinct Notes, in *Architecture* likewise are only seven distinct Proportions, which produce all the different Buildings in the Universe, *viz.*

THE Cube,—the Cube and half,— the Double Cube,— the Duplicates of 3, 2, and 1,— of 4, 3, and 2,— of 5, 4, and 3,— and of 6, 4, and 3, produce all the Harmonick Proportions of Rooms.

LET me, for Example, propose a Building whose principal Floor is 12 Foot high, how to proportion those Rooms which are to be in the internal Part by the preceding Rules.

If

LECTURES

If the Height be 12	Foot	If the Height be 12	Foot
If the Height be 12	{	the Cube will be	12 Long, 12 Broad.
If the Height be 12	{	the Cube and half is	18 Long, 12 Broad.
If the Height be 12	{	the Double Cube	24 Long, 12 Broad.

The Duplicate of 3. 2 and 1, if the Height is 12	Foot	The Duplicate of 4. 3 and 2, if the Height is 12	Foot
Length 36, Breadth 24.		Length 24, Breadth 18.	
The Duplicate of 5. 4 and 3, if the Height is 12	Foot	The Duplicate of 6. 4 and 3, if the Height is 12	Foot
Length 20, Breadth 16.		Length 24, Breadth 16.	

THESE are the seven Proportions of Rooms, which are founded upon the same Rules as the Unison, the Diapente, the Diapason, the Sesquialter, &c. are in *Musick*, and may be varied to all kinds of Magnitudes whatever, supposing your Story to be the Standard.

I shall only illustrate this Rule by one Example more, by supposing,

Foot.

The Height of the Story 18	Foot,	the Cube will be in Length 18, Breadth 18.
		the Cube and half in Length 27, Breadth 18.
		the Double Cube in Length 36, Breadth 18.
		of 4. 3 and 2, — Length 36, Breadth 27.
The Subduple		of 5. 4 and 3, — Length 30, Breadth 24.
		of 6. 4 and 3, — Length 36, Breadth 24.
		of 3. 2 and 1, — Length 54, Breadth 36 $\frac{1}{2}$.

The Rule Explained.

Suppose the Height 18 Foot, and the Subduple Proportion is 6, 4, and 3, divide 18 by 3, and the Quotient is 6, multiply that Quotient by 4, produceth 24, the Breadth, and multiplying it by 6, produceth 36, the Length of the Room: And so of all other Proportions.

This

THIS singular way of Thinking, led me to another new Thought, in proportioning the Magnitude of the Opening of Chimnies to those Rooms by an universal Rule, which will likewise serve for all manner of Rooms whatever. By these Rules the Breath of the Chimney, its Height, Depth, and Square of the Funnel for Conveyance of Smoke, are demonstrated, and in so easy a Manner, that none of you can mistake their Application and Use.

RULE I. To find the Height of the Opening of the Chimney from any given Magnitude of a Room, add the Length and Height of the Room together, and extract the Square Root of that Sum, and half that Root will be the Height of the Chimney.

RULE II. To find the Breadth of a Chimney from any given Magnitude of a Room, add the Length, Breadth and Height of the Room together, and extract the Square Root of that Sum, and half that Root will be the Height of your Chimney.

FULE

RULE III. To find the Depth of a Chimney from any given Magnitude, including the Breadth and Height of the same, add the Breadth and Height of the Chimney together, take one fourth of that Sum, and it is the Depth of the Chimney.

RULE IV. To find the side of the Square of a Funnel proportion'd to clear the Smoke, from any given Depth of the Chimney, take three fourths of the given Depth, and that Sum is the Side of the Square of the Funnel.— Observe only, that in Cube Rooms the Height is equal to the Breadth, and the foregoing Rules are universal.

To prove the Rule univerially useful, I have a Table of all the foregoing Proportions calculated in the preceding Manner, from which I shall shew you an Example of the Proportions of the same, as is before describ'd, and in the following Manner.

If

+

Foot.	Leng.	Bread.	Br.	Heig.		Dep.	Squ.
				Heig.	Dep.		
If the Room be in Height	12,	12, and	12,	3 0	3 0	1 6	1 1 ¹ / ₂
The Cube and half	12,	18, -	12,	3 3	2 8 ¹ / ₂	1 5 ³ / ₄	1 1 ¹ / ₂
The Double Cube	12,	24, -	12,	3 5 ¹ / ₂	3 0	1 7 ¹ / ₂	1 2 ¹ / ₂
Height,							
The Sub- duple	of 4. 3 and 2, 12,	24, -	18,	3 8	3 0	1 8	1 3
	of 5. 4 and 3, 12,	20, -	16,	3 5 ¹ / ₂	2 10 ¹ / ₂	1 7	1 2 ¹ / ₂
	of 6. 4 and 3, 12,	24, -	16,	3 7	3 0	1 7 ³ / ₄	1 1
	of 3. 2 and 1, &c.						

Chimnies.

Thus

THUS, Gentlemen, I have not omitted any Observation that might prove useful to you, especially in the strict Adherence to Proportions, perform'd by Rules. My next *Lecture* will contain some useful Observations on *Light* sufficient to illuminate Rooms of any Magnitude, by an infallible Method; and some general Reflections, which will prove a singular Use to you, if observ'd, in the Performance of any Branch of *Architecture*.

GIVE me Leave, in the mean time,
to assure you I am with due Respect,

Yours, &c.



*A Table of HARMONICK and ARITHMETICAL
Rooms and Chimnies by
Rooms. Chimnies.*

Prop. 432. Double Cube. Cube and half. The Cube.

Length.	Breadth.	Height.	Breadth.		Height.		Depth.		Square of Funnel.	
			3	0	3	0	1	6	1	1
12	12	12								
14	14	14	3	3	3	3 $\frac{1}{2}$	1	7	1	2
16	16	16	3	5 $\frac{1}{2}$	3	5 $\frac{1}{2}$	1	8	1	3
18	18	18	3	8	3	8	1	10	1	4
20	20	20	3	10 $\frac{1}{2}$	3	10 $\frac{1}{2}$	1	11 $\frac{1}{4}$	1	5
22	22	22	4	1	4	1	2	0 $\frac{1}{4}$	1	6
18	12	12	3	3	2	8 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	1
21	14	14	3	6	2	11 $\frac{1}{2}$	1	7	1	2
24	16	16	3	9	3	2	1	8	1	3
27	18	18	3	11 $\frac{1}{2}$	3	4 $\frac{1}{2}$	1	9	1	4
30	20	20	4	2 $\frac{1}{2}$	3	6	1	11	1	5
33	22	22	4	5	3	8	2	0 $\frac{1}{4}$	1	6
24	12	12	3	5 $\frac{1}{2}$	3	0	1	7 $\frac{1}{2}$	1	2 $\frac{1}{2}$
28	14	14	3	9	3	3	1	9	1	3 $\frac{3}{4}$
32	16	16	4	0	3	5 $\frac{1}{2}$	1	10 $\frac{1}{2}$	1	4 $\frac{7}{8}$
36	18	18	4	3	3	8	1	11 $\frac{3}{4}$	1	6
40	20	20	4	5 $\frac{1}{2}$	3	10 $\frac{1}{2}$	2	1	1	6 $\frac{1}{4}$
44	22	22	4	8	4	1	2	3	1	8
24	18	12	3	8	3	0	1	8	1	3
28	21	14	4	0	3	3	1	9 $\frac{1}{2}$	1	4
32	24	16	4	3	3	5 $\frac{1}{2}$	1	11	1	5
36	27	18	4	6	3	8	2	0 $\frac{1}{2}$	1	6
40	30	20	4	8 $\frac{1}{2}$	3	10 $\frac{1}{2}$	2	1 $\frac{3}{4}$	1	7 $\frac{1}{4}$
44	33	22	4	11 $\frac{1}{2}$	4	1	2	3	1	8

The Use of the Table.

Let the given Height of the Room be 12 Foot to the Height of the Room 12 Foot, the Length 18, in the same Line 2 Foot 8 $\frac{1}{2}$ Height, 1 5 $\frac{3}{4}$ the Depth of the Chimney, 10 of the Proportion of any Chimney to the given Mag-

ARCHITECTURE. 99

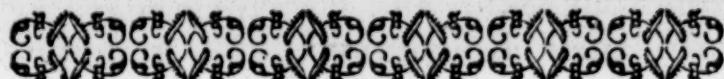
METICAL Proportions, for Magnitudes of
UNIVERSAL Rules.

Rooms.

Chimneys.

Examples.	Proportion.			Proportion.			Rooms.			Chimneys.		
	7	6	5	4	3	2	1	6	5	4	3	6
7	6	5	4	3	2	1	6	5	4	3	2	5
25	20	15	10	7	5	3	12	16	10	7	5	20
30	24	18	12	8	6	4	15	20	15	10	7	25
35	28	21	14	9	6	4	18	24	18	12	8	30
40	32	24	16	10	7	5	21	28	21	14	9	35
45	36	27	18	12	8	5	24	32	24	16	10	40
24	16	12	8	6	4	3	10	16	12	8	6	24
30	20	15	12	8	6	4	15	20	15	10	7	25
36	24	18	14	10	7	5	18	24	18	12	8	30
42	28	21	16	11	8	5	21	28	21	14	9	35
48	32	24	18	12	8	6	24	32	24	16	10	40
54	36	27	18	12	8	6	27	36	27	18	12	9
18	15	12	9	6	4	3	12	15	12	9	6	18
24	20	16	12	8	6	4	15	20	16	12	8	24
30	20	10	12	8	6	4	10	15	12	8	6	30
36	24	12	10	7	5	3	10	12	10	7	5	36
42	28	14	12	8	6	4	12	15	12	8	6	42
48	29	14	12	8	6	4	14	18	14	10	7	48
12	12	12	9	6	4	3	8	10	8	6	4	12
18	12	12	9	6	4	3	8	10	8	6	4	18
24	12	12	9	6	4	3	8	10	8	6	4	24
24	18	12	10	7	5	3	12	15	12	8	6	30
20	16	12	10	7	5	3	10	12	10	7	5	20
24	16	12	10	7	5	3	10	12	10	7	5	24
20	15	12	10	7	5	3	11	12	10	7	5	20

Cube and $\frac{1}{2}$, the 2d Proportion; you will find the Breadth is the Proportion of the Chimney 3 Foot 3 the Breadth, and $1 \frac{1}{2}$ the Side of the Square of the Funnel: And nitude by the preceding Rules.



LECTURES VII.



GENTLEMEN,

Y fifth and sixth *Lectures* consisted chiefly of the general Proportions which are requir'd to be made use of in the external and internal Parts of Building : When I consider Proportions, their Efficacy and Use, I am led into a Profundity of Thought; each Part of the Creation, consider'd distinctly, or the amazing Structure of the Whole, or the Animal and Vegetable World, fills us with noble Ideas of the Power which such Proportions have on the Mind ; I mean those that are made conformable to the unerring Laws of Nature.

IF we immerse our Ideas into the infinite Tract of unbounded Space, and with the Imagination paint out the numberless Multitudes of Planets, or little Worlds,

Worlds, regularly revolving round their destin'd Orbs ; if we consider with what wondrous Skill and Exactness they perform their Revolutions, and how harmoniously they are whirl'd by their Eccentrick and Concentrick Motions, into their proper Tracts of Revolution ; if we imagine the exact Proportion, Distance, or Use of every one of them, we must feel Emanations of the Harmony of Nature defus'd in us ; and must immediately acknowledge the Necessity of Proportion in the Preservation of the whole Oeconomy of the Universe. Were the Planets to move irregularly, without stated Laws or Order, all things would soon jumble together into original Chaos.

IF we sink lower into the Animal Creation, we shall find the same Proportions and Order preserv'd through the whole Race of Beings ; and even the Vegetative Tribe, in their several Classes, spring from the same uniform and exact Rules ; and their Proportions insensibly strike the Imagination by some sympathizing Secret, which, perhaps, Futurity only can unravel.

MEN, from the repeated Instances of Order in Nature, undoubtedly, first found the Necessity of performing every thing by stated Rules; there being the greater Certainty of the Exactness of their Performance, than if blind Chance were to direct them to the Choice of those Proportions: From hence the Study of Arts and Sciences necessarily sprung; more particularly, those Branches which are dependant on the *Mathematicks*, such as *Musick, Sculpture, Painting, Architecture*, and the like; all being dependant on such Rules and Proportions which are the Dictates of Nature, and infallibly please the Imagination; especially in *Architecture*; the Ancients so beautifully perform'd their Works they always gave a Pleasure to the Beholder.

THESE Observations will be useful to you in the Choice of Designs, or in the Directions of the Performance of them: First, that the internal Parts may be proportion'd to the external; that is, a small Building should have little Rooms; in a larger, the Rooms must be more spacious; having an Analogy to the Magnitude of the Fabrick; and their Heights must have

have a Proportion, regulated by some of the preceding Rules. *Palladio* has observ'd, that there are seven beautiful Proportions, and has likewise pointed them out, *viz.* A Circle or a Square, or the Diagonal of a Square, or a Square and one third, or a Square and half, a Square and two thirds, or lastly, two Squares; and has given a Section of each of those Proportions, which though different from the Rules I have laid down, are agreeing in the Number Seven, and that the Length of no Room exceed a Double Cube, or what he there terms two Squares; and, with one Observation worthy your Notice, that the nearer a Room (in particular a Hall) is to a Square, the more uniform and commodious they will be: Though he, perhaps, conceals the Reason why such Proportions affect the Eye and Imagination, which are only because they are such which Nature herself dictates, Unison, being always Harmony.

It will be necessary in Country Seats, to have each Side of the Entrance or Middle of the Building alike; not only to preserve a Harmony in the several Parts, but as the Walls are answerable

to each other, they will be equally press'd by the Roof ; and if the Building is so dispos'd, that more Walls are on one Side than the other, or of different Magnitudes, then the Roof pressing, or being not so easily supported by the weakest Side, there will be Gaps and Chasms, occasion'd by greater Settlements, which will render the Building unfirm and incommodious.

IN each Room likewise the Piers on one Side should answer, and be equal to the other Side of the Middle of it, those on one Side the Chimney should be the same Magnitude as those on the other, and on the Window Side the same Uniformity should be observ'd ; the Doors should answer one another, either by real or false ; and a Vista through the Middle of the Building should be always had, and, if possible, to each Front ; and the Doors of one Room, in a Range of Rooms, should be dispos'd to answer each other in a Line, to preserve a Grandeur proportion'd to the Magnitude of the Building.

IN a spacious Building, as some principal Rooms will be wanting, smaller will

will doubtless occur ; but these must lie contiguous to each other, not interrupting the State and Magnificence of the others ; and by making Mezonina's or half Stories, will render those little Rooms of an elegant Proportion, which by placing near the Back-Stairs, or more convenient Passage, become Lodging-Rooms, which are much warmer than those stately spacious Rooms, having less Inlets of Air, and are sooner heated by Fewel. There are Rules likewise for proportioning of Light, according to the Magnitude of the Room, by which any Room may be illuminated more or less, according to the Uses of them, and at the same time preserve an external Regularity ; which, as it is on an uncommon Basis, I shall explain it to you as well as I conveniently can.

LET the Magnitude of the Room be given, and one of those Proportions I have propos'd to be made use of, or any other ; multiply the Length and Breath of the Room together, and that Product multiply by the Height, and the Square Root of that Sum will be the Area or superficial Content in Feet, &c. of Light requir'd.

EXAMPLE

EXAMPLE, Suppose a Room (mark'd A.) whose Magnitude is the Arithmetical Proportion of 5, 4, and 3, and is 20 Foot long, 16 Foot broad, and 12 Foot high, the Cube or Product of its Length, Breadth, and Height, multiplied together, is 3840, the Square Root of which Sum is 62 Foot, if the Height of the Story is 12 Foot, as is before mention'd, divide that 62 Foot into three Windows, each Window will contain 20 Foot 8 Inches of superficial Light, and those will be found to be 3 Foot 2 Inches and one half broad, and 6 Foot 5 Inches high, which are Windows of two Diameters.

LET us now suppose another Room (mark'd B) on the same Range, whose Height is 12 Foot, as the preceding Example is, and its Proportion shall be the Cube, the Product of that Cube is 1728, and its Root is 41 Foot 4 Inches, or thereabouts; divide that 41 Foot 4 Inches in two Parts for two Windows, and each will be 20 Foot 8 Inches of superficial Light, and those will be two Diameters in Height, and the Magnitude the same as the preceding Room.

FOR

FOR Example sake I will only suppose one more Room (mark'd C.) upon the same Range, and 12 Foot in Height, whose Proportion shall be the Arithmetical of 3, 2, and 1, that is, its Height being 12 Foot, the Breadth will be 24, and Length 36 Foot, the Product of those Numbers multiplied together will be 10368, and its Root 101 Foot 8 Inches, or thereabouts ; divide this Room into five Windows, each Window will have 20 Foot 4 Inches superficial Light, and the Magnitude will be near or equal to the others ; and if the Proportion be 6, 4, and 3, and cov'd, the Light is the same.

THERE is but one Objection to this Rule to make it universal for all kinds of proportion'd Rooms on the same Floor, and that is, the Square Root doth not always happen to be exact enough for to make them alike ; but as the Variation will be so small, it may be made use of ; and if the Area something exceeds the Standard of the principal Rooms, that Room may be converted to a Use which requires more than Standard Light, and the Necessities of Families sometimes require it.— But however, the Rule will

will serve for the Purpose near enough for any Practice.

I F you extend the Rule to larger Rooms, the same Methods will be preserv'd, even if their Height be continued through two Stories, if the upper Windows be made square, and to have two Tier of Windows. Let us suppose the Room (mark'd D.) with two Tier of Windows in Height, to be 50 Foot long, 40 Foot wide, and 30 Foot high, the Arithmetical Proportion of 5, 4, and 3, the Product of those Numbers multiplied together will be 60000, the Square Root of which Sum is 245 superficial Feet ; divide that Sum for the Tier of Windows into three Parts, or take one third of it, and that makes the Attick or Square Window 81 Foot 8 Inches superficial Light, divide this into five Windows, and they are four Foot and half an Inch Square, and the five lower Windows consisting of 163 Foot 4 Inches superficial Light, being what remains out of the 245 Foot the Root, each of these Windows is 4 Foot half an Inch by 8 Foot 1 Inch, or two Diameters, which 245 Foot, the whole Sum of the Square

Square Root of the Room, will sufficiently illuminate the same.

I HAVE been the more prolix in this Description, because the giving a proper Light to a Room by a Rule, has been, perhaps, the least thought of in the Disposition of the internal Part of a Building ; and as I esteem it a necessary Part to be understood, I thought it incumbent on me to form some Rule, whereby the Knowledge of it might be attain'd.

STAIR-CASES are the next Part of internal Designing, and require Judgment in the Disposal ; they must be so plac'd as to be well illuminated, contiguous to the Center of the Building, or else more than one in Number ; and so plac'd, that each Room may be near them, and have an easy Access to them, without incommoding any of the rest of the Rooms : Their *Going* should be large, the *Tread* broad, and the *Rise* easy for principal Stairs ; for Back Stairs, less of each is requir'd, being more for servile Uses than Grandeur ; and they should be so plac'd as to be more remote from the Eye, and in the more common Apartments

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ments of the Building, either as they lead to Servants Lodging-Rooms, or are the Access to the useful Apartments in the lower Offices of the Building.

THEIR Form is various, as Rooms are ; but one Observation is necessary, which is, that the Flights be not too long, and to have no Winders in principal Stair-cases : The first give an Un-easiness, and soon weary the Ascender, for want of half-Paces to rest on ; and the latter is very incommodious, if by Chance two Persons meet on a Stair-case with Winders, and the Going is not more than ordinarily large, their Passage is incommoded, and often proves ill-convenient.

BUILDINGS in Town require *Con-trivance* more for Convenience than Grandeur ; the Rooms cannot be so spacious as those in the Country, but however Regularity is to be observ'd ; the Chambers or Lodging-Rooms, require to be as far from the Noise and Tumult of the Street as conveniently can be plac'd, and so near a Stair-case, that if any Accident by Fire (which too frequently) happens, an easy Access may be had

ARCHITECTURE. III

had to it ; for which Purpose all Back Stair-cases in Town-Houses, as they generally are carried from the lower Offices to the Roof, should be of Stone, and the Walls of them Stucco, that no Danger might prevent the Safety of getting down them, to avoid the Fury of the Flames ; and such which are plac'd about the Middle of the Building and illuminated by a Sky-light, are by far the most convenient.

As in Town-Houses, so in the Country, the Kitchen should be remote from the House ; the *Stearns* arising from thence are offensive, and the extream Heat of it often renders the Apartment over it very irksome to bear : The servile Offices are best always to be some Distance from the main Building, the House will be less troubled with Noise, and less incumber'd with such Things which are requir'd to serve the Purposes of a Family.

OFFICES to Buildings are variously situated : Some are continu'd in a Range with the Front of the Fabrick, some join them by a circular Colonade, and others are environ'd to the principal Front : As

Burlington-

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Burlington-House, and *Montague-House* in *Great-Russel-Street*. A Pattern of a circular Colonade is *Buckingham-House*, and that which the late unhappy Conflagration destroyed of the Duke of *Devonshire's*. These, indeed, are under some Restriction for want of Room: but I think it not adviseable to contract or enclose a regular Front, but rather leave the Opening spacious and clear; an Inconvenience attends it likewise, that is, the Smoke of those environing Offices often proves offensive to the House.

IN the Country, where Room is to be had, the *Architect* has Scope for Fancy, and the Offices should be something analogous to the Front of the House, always observing to make them plainer; and where Decoration and Dress adorn a Front, in the Offices it should be used very sparingly.

IF the Offices are continued long in a Range with the Front, they should fall gradually away, by Breakings, and terminate, as it were in a Point. I can best describe this beautiful Manner of Designing, by a Building erected near the Town, and is (I think) the Design of *Inigo*

Inigo Jones, and that is *Chelsea-College* ; to the North Front there you find that easy declining of the Range, like a beautiful Landskip diminishing from the Eye by a gradual Shade ; perhaps here and there a little Hill arising, from thence sinking into a Lawn, which by alternate Changes are extreamly pleasing : There is nothing wanting to make that a perfect Design, *but* to have made the middle Part a Portico, to be brought out as far as the Steps.

PORTICO's, or *Porches*, undoubtedly give a Grace and *Nobleness* to a Design ; something Majestick strikes the Imagination, if they are duly proportion'd. It is to be observ'd, that they should never be less than four Columns, nor more than eight to them ; except at the Angle of it a Pilaster and Column are join'd at their Plinths, and the Intercolumniation be of the *Corinthian* or Proportion *Systylos*, — and always are suppos'd to support the Roof, as in the Manner of the Ancients, so justly imitated in the Front of *Covent-Garden* Church, the Design of *Inigo Jones*.

P E D I M E N T S are generally, and indeed the most beautiful Manner of covering a Portico ; as St. *Martin's* Church, and St. *George's* *Hanover-Square* : And, indeed, most of the antient Temples of *Greece* had their Entrances in the same Manner ; and many Noble Palaces still are adorn'd with them. The Proportions are so well known, I shall not trouble you now with a Repetition of them.

W H E N we consider the Dress of a Fabrick, either in the internal or external Part, it is there the *Architect* is to shew his Skill ; he is to adapt that to the Magnitude, or Situation of the Building, always rather below Profusion, than to attempt it. Dress is the most expensive Part, either within Side or without ; but wherever Enrichments are applied, they should be few, and more particularly without Side. If Carving is to be introduc'd to Ornaments, it should be in such Places as are defended from the Weather, as in Cornices, &c. for where Snow or Rain can lodge in it, they are of a decaying Principle, and Time will soon waste away those tender

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der Parts, the Beauty of it will fade soon; for the Parts where the Rain lodges will receive Dust, and when it overflows, that will stain and fully it; which Inconveniences would be prevented, were the Members entirely plain.

STONE will endure long, but among those we have, *Portland* is the most beautiful as well as durable; and if a Front is not wholly of Stone, the Dress to Windows, Strings, Fascia's, Cornices, &c. will be very agreeable; but of all things Stucco, or Finishing, to external Uses, are to be avoided; a few Years destroys it, and its Colour soon fades; if it be painted, it will prove a continual Expence, and the Incidents of the Seasons will even then destroy it in a little Time.

IN Buildings of Brickwork, a Plinth of Stone is requisite, though no Dress is applied to the other Parts. Stone is not only more durable, but as they are in large Pieces for the Foundation, they will be a better Tie, and not so easily crush'd by the Weight above, to occasion a Settlement. The Rains which fall near a Foundation from a Cornice, &c.

I 2 often

often penetrate into the Joints of Brick-work, and by that Means weaken it, and if requir'd to be clean'd, cannot be so well done as Stone ; but then it may be observ'd, that where-ever it be used, it will be an Enlargement of Expence.

AN *Architeet* has, undoubtedly, many Difficulties to meet with in the erecting a Building ; want of Materials, of proper Workmen, and too often of Substance ; whereby his Skill in the Execution is requir'd to supply such Defect, by adapting Things necessary in the Room of those which would be undoubtedly more useful : But then the greatest Part of his Judgment will yet appear, and that is in the Order, Regularity, and Convenience of the Fabrick ; and if a skilful Design be perform'd with Brick instead of Marble, it will have the same Beauty, the Proportion must infallibly please.

A PLAIN regular Front, without Dress or Ornament, if justly proportion'd will better satisfy the Taste of the Judicious, and more immediately strike the Eye, than all the gay Dress and Decoration of an ill-proportion'd Design :

There

There is a kind of sympathizing Pleasure from Nature, when a just Proportion is observ'd *in the Performance* of a Building.

INTERNAL and external Dress require Rules to be applied to them, and even the minutest Parts require a certain Proportion; there is a Way which both Art and Nature have pav'd for us, and when we deviate from that Path, we wander in Uncertainties. If we apply our Reason to things, we shall soon find it true, that every thing requires to be perform'd by infallible Rules: This is what I have all along aim'd at in these *Lectures* as to Generals, and if in particular Things it be attempted, the same universal Law of Nature holds good: I shall therefore in my next *Lecture* treat more particularly of Decoration and Dress, internal and external.

IT is impossible by Words to explain things to your entire Satisfaction; but as far as the Nature of such Definitions will extend by verbal Explanation, I shall endeavour at; hoping you will consider how defective such Descriptions are, compar'd to a Design delineated on

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Paper; and when you are pleas'd to give Allowance for such Defect, I shall esteem it a Favour, and shall communicate any thing to you worthy your Notice: In the mean time I am,

Gentlemen,

Yours.

Read to the Society, *March 11, 173 $\frac{3}{4}$.*



LECTURE



LECTURE VIII.

GENTLEMEN,

Y preceding Lectures consisteth
 chiefly of a Description of Pro-
 portions to be used in *Build-
 ings*, in which the external Part
 as well as the internal, are confined to
 stated *Rules*. I have endeavoured so to
 explain those Rules, to make them useful
 in the *Practice* as well as *Theory* of all kinds
 of Building, and with as much *Brevity* as
 such Definitions would admit. There
 remains now to compleat my Design,
 only a proper Disposition and Proportion
 of *Ornaments*, to be apply'd to deck the
 Fabrick; and indeed, this is the most dif-
 ficult Part of *Architecture*, so to dispose
 of Ornaments as to fill up useles Vacui-
 ties, and to give a proper Alleviation to
 the Eye as it passes from Space to Space,
 preserving an Analogy through the keep-
 ing of the whole Design, and so filling

I 4 and

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and decorating the Vacancies, as not to crowd and incumber the Parts with superfluous Dress or Ornament.

BEAUTY and *Proportion* are inseparable, for which Reason Beauty is always center'd in Proportion, and Proportion is ever beautiful; therefore, in Nature there are stated Laws, whereby they are form'd: But when we *deviate* from Nature, the farther we recede, the more remote we are from Elegance, because Nature is constant and invariable in her Production, and admits of nothing to make her pleasing or beautiful but *Proportion* and *Harmony*.

IN Architecture, therefore Rules are to be made use of, which when observed by an *Architect*, his Fancy, or Genius, will give a proper Contrast to a Design. A Statue may have an elegant Proportion without Dress, and be in Nature just, yet Nudities are not so pleasing to the Eye, as a Statue in Cloathing, after the antique Dress of Drapery, and even in Dress, the fine Proportion of the Statue may be preserved; the tender Softness of a *Venus*, or the muscular Robustness of a *Mars*

or

or a *Hercules*, may be shewn through the Drapery in proper Parts; but then a fine proportion'd *Statue* may have a Superfluity of Dress, or be illly plac'd, or want *Elegance* in Design, which destroys even the Beauty of the Statue; so in Buildings, a plain just proportion'd Design will always please the judicious Eye, but a proper Disposition of *properly proportioned Ornaments* adds to it a pleasing Gracefulness, and renders it abundantly more agreeable, where the Parts which deck the Fabrick, are only just what are necessary, without *Superfluity* or *Want*.

OUR modern Architects have made Ornament or Dress, the principal Part of their Performance, and have given Decoration to ill-proportion'd Fabricks, and indeed, Superfluity is generally the thing to attract the Eye; they garnish the in-elegant Design, to attone for the Disproportion of the Parts, and croud and fill the Spaces by some gay Dress, to conceal the want of Proportion; which is only a kind of unmeaning Attempt at *Elegance*, which our greatest Architects are not exempt from, tho' in other Places have shewn a refin'd *Elegance*

Elegance of Taste worthy Imitation, Examples of the former Class are too numerous, and the latter are more envied, perhaps, than admired ; which makes such Examples less known by young Students in Architecture, to attract their Attention.

THAT the Rules which I have laid down may be of use to apply to Buildings, I have chose a Design whose Proportions are the same which I have made use of in the internal Parts of a Building, as is shewn in the Sections Plate the II^d, p. 105, in which is the square and arithmetical Proportion 5, 4 and 3, which I have chose for the Plan and Profile before us, Plate the III^d. The Plan is 50 Feet Front, 40 Feet deep, and the Height of the Building is 30 Feet from the surface of the Ground, to the top of the Blocking Course.

As the Design is small, I have divided the internal Parts in proportion to the Magnitude of the Design, as may be seen by the Plan which is of the principal Floor. I propose the House to stand in a *Toffee*, and such Offices for the use of the House to be

be below the Plinth, as shewn in the Profile above it; the Entrance to those Offices being propos'd at the End, mark'd G — by the Stair-case: As those Offices are principally for Servants, I have omitted the Plan. On the principal Floor are four Rooms, three of which have the Proportion Sesquialter, or the Cube and half, proposing all that Floor to be 12 Feet high in the Clear, in which the Rooms mark'd C, D, E, are 18 Feet long, 12 Feet wide, and 12 Feet high, which is the Cube and half.

THE principal Room mark'd B, I have given the Proportion of 4, 3, and 2, it being 24 Feet long, 18 Feet wide, and 12 Feet high. The Front Walls are two Bricks thick, or one Foot six Inches each; which makes

F. I.

The two Walls	3 0
The Room mark'd A, is	24 0 Length.
The Partition is thick	1 0
The Room C, is width	12 0

Makes Feet 40 0 which is the Depth of the Building.

THE

THE Front being 50 Feet, I propose the end Walls one Foot ten each, which is two Bricks and half;

	F. I.
Both making	3 8
The Room B, is	18 0 Breadth
The Wall next Passage A,	1 2 Thick
The Passage mark'd A, is in the Clear	} 8 0 Wide
The middle Wall next the Stairs, and Rooms mar- ked C, D, and E, is	} 1 2 Thick
The Rooms mark'd E, D, 18 0 Long	

Makes 50 0 Feet the
Front of the Building.

IN the Plan I have endeavour'd to preserve a strict Uniformity and Convenience; each Room I have illuminated with a proper Light, without changing the Regularity of the Front; and at the End G, I have made a *Venetian* Window the whole opening of the Stairs, which will be an Illumination to the Passage mark'd A. At the Landing-Place F, I have made a Screen of Columns to the Stairs, which will form a Gal-

a Gallery in the Attick Story ; and each Chamber be convenient and private, by making Closets over the Passage. The Attick Story will be the same Plan, without altering the Proportion of the Rooms ; and as they are intended for Lodgings, will be sufficiently lighted.

IT may be further observed, that each Room has a Communication to the Stairs, and to each other, without incommoding any, and renders them private as well as regularly proportioned. I would propose as to internal finishing, to have the lower Offices, except one Room, all plaister'd, or done with Stucco, and those Rooms pav'd with Tile or Stone, as can be most conveniently had in the Country, for which this is designed. The Stairs likewise I would have of Stone for the safety of the Inhabitant in case of Fire. The Walls of the principal Floor should be wainscotted with Deal, and the Cornices plaister'd and enrich'd in proportion to the external Drefs of the Design ; boarding the Floors with the best sort of Deal, and enriching the Ceilings, especially in the Room mark'd B, in which the Chimney-piece, the

Drefs,

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Dress, and Ornaments to the Doors and Windows, being all to be suited to the Elegance of the external Part, which is to be the Guide to finish the internal.

THE Profile mark'd A, I have divided into such proportion'd Windows and Piers, that gives an equal Margint round like the running of a Frett, which always give a Beauty to the most plain and simple Designs; and it is this, when rightly applied, that makes Dress and Decoration pleasing, where it is used to preserve an equal Space from Vacuity to Vacuity. To contract a large plain Space, or to alleviate the Eye in passing from one part of the Design to the other, which by breaking into various Parts answers the End of enriching a Building. As the Profile before us is composed of the most natural Numbers, to give Pleasure to the Eye, you may see Harmony even in its Plainness. But if the Situation, or the Inhabitant or Owner require more *Vivacity* and *Gaiety*, the front B Plate the 4th, will be a proper finishing; and here, the Windows, Piers, Heights, and every thing are the same as that mark'd

(mark'd A.) only supposing the Ornaments lain on it without altering any part of the *Disposition* or *Magnitude*; yet the Margints or Spaces are preserved, and a proper keeping to the Design.

IF the most elegant Dress is required, let the Profile C, be supposed to be the same with A in Magnitude, &c. as is before observed; only laying on the Enrichments to adorn the *Fabrick*, the Spaces are preserved by breaking the Distances with Festoons or Drapery, &c. which give a Gracefulness and well proportion'd Symmetry to the whole. It is easy to see the same Graces in the beautiful Statue ornamented with proper Drapery; and you may trace the plain Profile through all the Elegancy of Architecture, where a just Proportion has been us'd in the Parts which compose the Design; and as in a Statue the Muscles, Nerves, &c. have a just proportion to the Magnitude of the whole; so, in a *well proportioned Building*, every Part should be consider'd, as it relates to the completing the Design, to make it *strong, beautiful, and convenient.*

THE minuter Ornaments made use of to adorn Doors, Windows, &c. have such

such Proportions already assign'd them, that no Addition can be made to beautify them ; only it must be remembered the fewer Divisions they consist of, the more elegant they will appear ; and when Mouldings are used at any considerable distance from the Eye, they should be few in number and of an *ample Relievo* ; for where they are small, a redundancy of Parts scatters the Angles of Sight into a Multitude of Rays crowded together, and renders the Object we view a perfect Confusion.

IT has been the just Observation of an *ingenious* Friend, that in Dress and Decoration the *Ornaments* which deck the Design should be natural, and all the Parts should have an *Analogy* one to the other : As suppose in particular, the ornamenting a *Ceiling* of a Room, the Beams which are enrich'd should be lain over *Piers*, the Pannels answer Doors or Windows, and the Margints be preserved the same as the *Sides* of the Room ; for in standing on one *Side* of a Room, the Ceiling of the opposite *Side* should answer the Division of the Walls, that they might appear in one *Line*. Few Persons have strictly observ'd this Method ; but as a Proof of its BEAUTY when perform'd,

†

observe

observe the *Ceiling* of the Banqueting-house at *Whitehall*, where it is strictly executed ; and compare it with the *Ceiling* of the new Building of *St. Bartholomew's Hospital*, and you will yourselves readily judge the necessity of observing those Methods in dividing the Compartments of a Design, and what Effect they have where Fancy only has directed the Designer in his Choice of Decoration.

GENTLEMEN, It has been my chief Design in these Lectures to lay down Rules for most of the *principal Branches of Architecture* ; and if I have any where deviated from the common Path, your own Judgments will guide you to the properest Choice. I do not lay them down for absolute, but if they are *practicable* they may be *useful*. Our Judgments vary much in the most common Opinions ; and if there should be different Sentiments about the improvement and refining so noble and extensive an *Art as Architecture*, yet it is certain, where RULES are the Guide to our Judgment, such Opinions are built upon the most solid and lasting Foundation.

K

WHEN

WHEN I consider *Architecture* in its utmost Extent, and how many different Designs may be compos'd from those few RULES which I have laid down for the *general Proportions*, it always gives me an agreeable Pleasure in the Reflection, to see from one small Fabrick new Embellishments, and rising to noble Buildings and Palaces ; and all performed by the same Rules, the same analogous Proportions, must be a pleasing Theme to employ the Thoughts of a speculative Genius. When I consider how many successive Ages of Time have roll'd away since the Art was perfected, and how the noble Actions of eminent Persons have been transmitted to us by *publick Buildings* and *monumental Ornaments*, and how future Ages may view the Works of our present Worthies in their *Palaces* and *Seats of Retirement* : When I am led to such Contemplations, it always gives me an unspeakable Satisfaction.

To acquire a just Taste of Designing, must be to be well acquainted with the Designs of the Antients, to traverse the antique Buildings of *Greece* and *Rome*, and compare them with the Works of *Serlio*,

Serlio, Palladio, and others; and see which is most agreeable to Rule, or most affects our Passions in the Review; where Nature is most apparent, there undoubtedly *Harmony* resides, whether the Design be plain and consist of but few Parts, or whether it be enrich'd with Ornament or Decoration; if RULES or NATURE have been applied, those are the Examples worthy our Choice.

COMPARE the Portico of St. *Martin's* Church with some of the antient Temples of *Greece*, in the Works of *Vitruvius*, or the *Pantheon* at *Rome*, and there you will discover true elegance of Design, and a happy refinement of Taste. To see Buildings of more than 2000 Years distance in Date be thought worthy of Imitation, shews not only the Excellency of Architecture in those Times, but the Genius of this present Age, who can divest themselves of modern Error, to trace the Paths of Antiquity. The Antients were generally grave and solemn in the decoration of their Temples, but their *Theatres* and *Palaces* had Gaiety and Dress to enliven the Design, and were never sparing in Ornament, so it did not border upon *Profuseness*.

OR-

ORNAMENTS certainly give a noble Contrast to a Design, where they are appropriated to the Purposes of the Building; but it must be consider'd, Festoons of Fruits and Flowers would illy become the Entrance of a Prison, or frosted rustick Work the Approach of a Palace: Propriety in Ornaments is therefore a grand part of Designing, and where it is justly introduc'd with Elegance of Taste in *Disposition* and *Proportion*, shews an Accomplishment in Judgment, which is requisite for a compleat ARCHITECT.

As I have now compleated the general Proportions, it may be expected that I should proceed to treat of the particular Magnitude and Form of Ornaments which deck and embellish the *Fabrick*; but as that will be as extensive in Description, as what I have hitherto describ'd to you in my Seven preceding Discourses, I shall make the Orders and Ornaments of *Architecture* the Subject of future Lectures, when Opportunity gives me leave to trace a Subject so agreeable, and of so universal extent as ARCHITECTURE.

In the mean time I remain,

GENELEMEN,

Yours, &c.



